

# Maricopa County Health Status Report

Maricopa County Health Status

Presented March 2012, Updated August 2012

Maricopa County Department of Public Health

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Arizona Department of Health Services

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# Overview

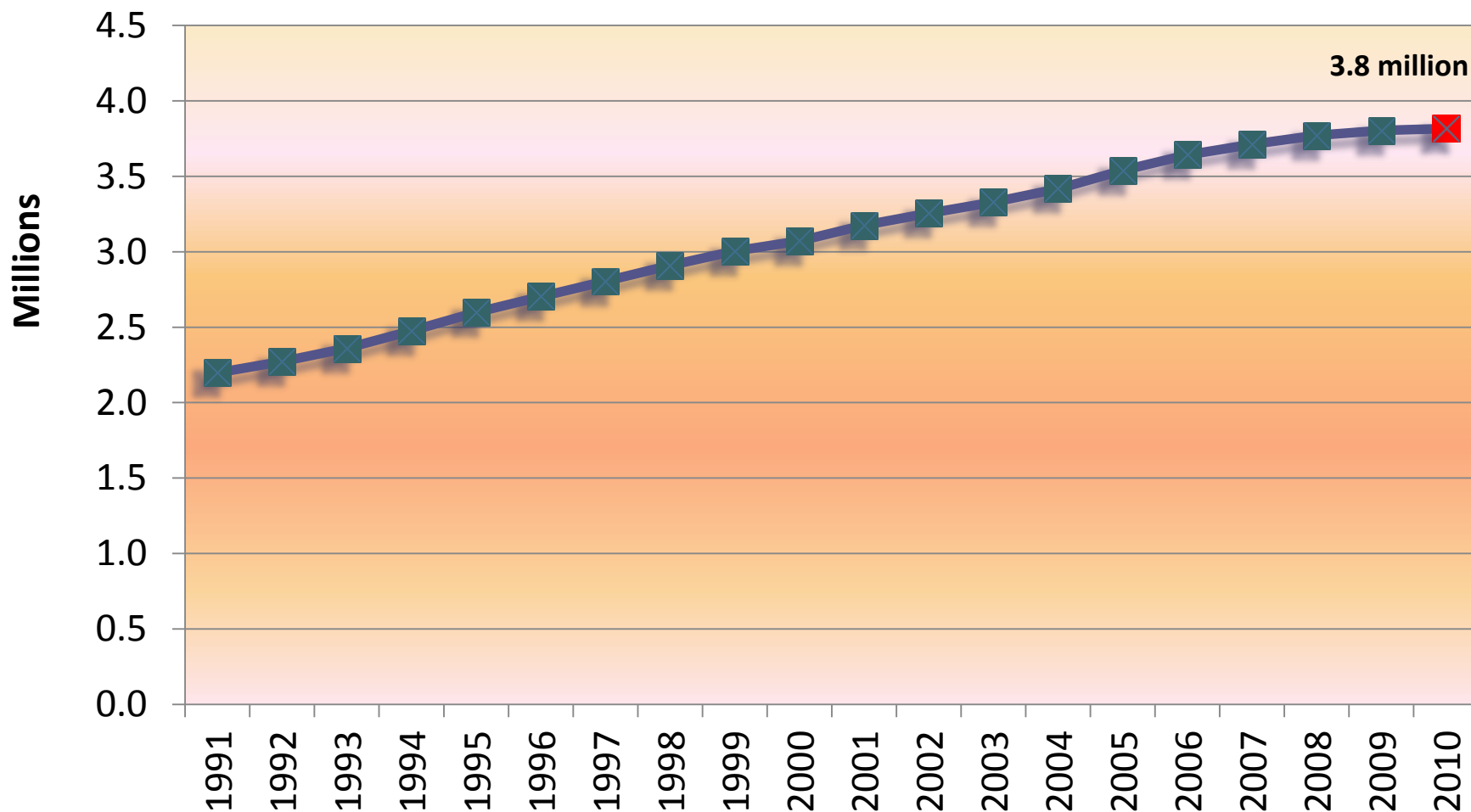
- Maricopa County Department of Public Health and Arizona Department of Health Services conducted this community health assessment collaboratively
- Goal: To review public health data in order to help set health improvement plan priorities for the community
- This presentation is a review of data from:
  - Death certificates
  - Disease reports
  - Hospital discharge data (emergency department visits, inpatient stays)
  - Birth certificates
  - Behavioral Risk Factor Surveillance System & Youth Risk Behavior Surveillance System, Pediatric Nutrition Surveillance System and the Pregnancy Surveillance System (CDC)
  - Arizona Health Survey (St. Luke's Health Initiatives)

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# Population

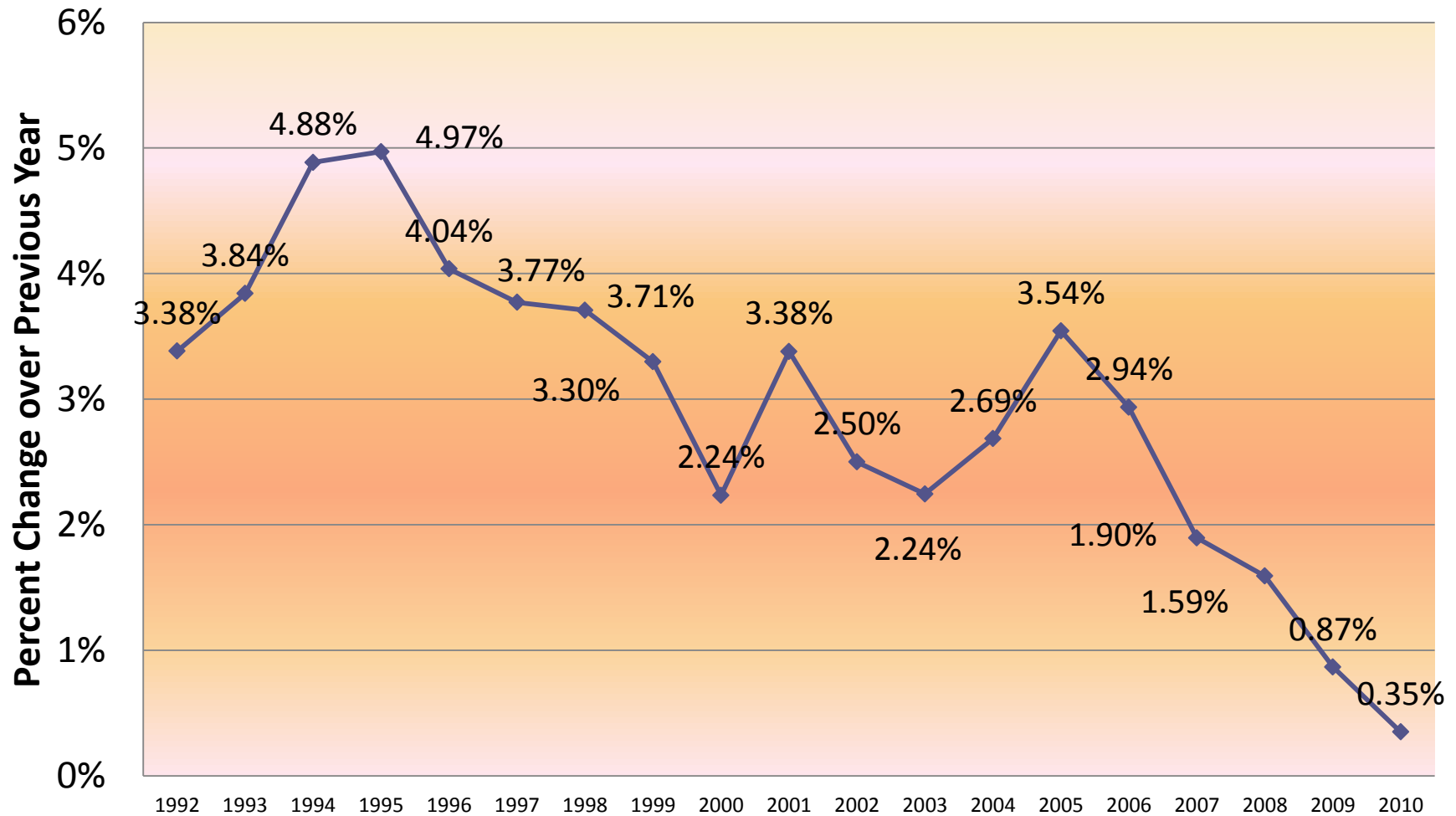
**Population**  
**Maricopa County 1991 - 2010**  
**Source: U.S. Census**  
**(Estimates for Years Between Censuses)**



# Population Growth

## Increase in Population by Year

### Maricopa County 1992 - 2010

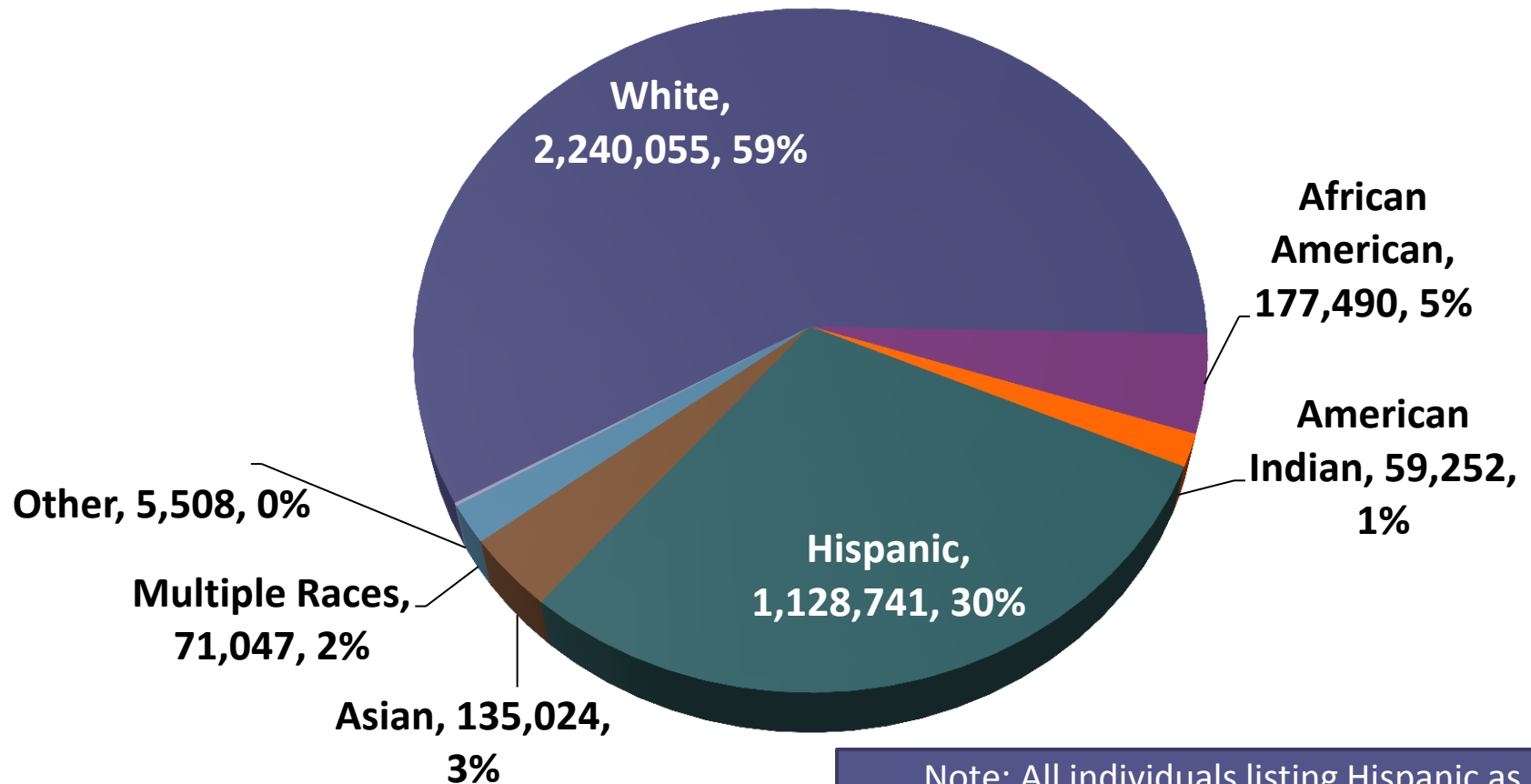


Source: 2010 Census

# Population Estimates

- How it could mess up the data
  - If population size in reality is *lower* than the Census estimate, the actual rates are higher than what we demonstrate
  - If the population size in reality is *higher* than the Census estimate, the actual rates are lower than what we demonstrate
- Hispanic diaspora?
  - Births to Hispanic mothers have decreased in last part of decade
  - Growth of total population has slowed

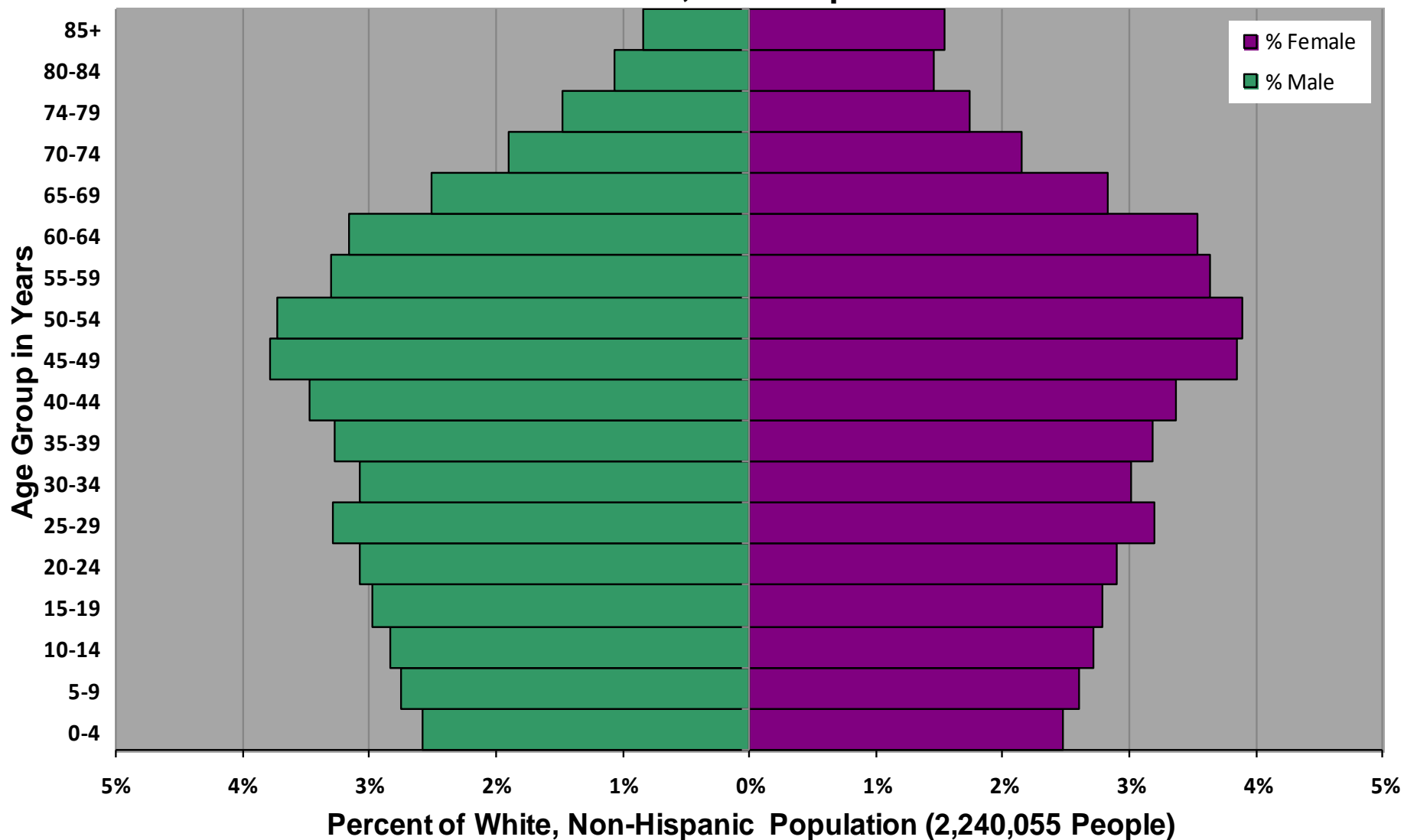
# Maricopa County Population by Race/Ethnicity 2010 U.S. Census



Note: All individuals listing Hispanic as ethnicity (regardless of race identity) were counted in the Hispanic group

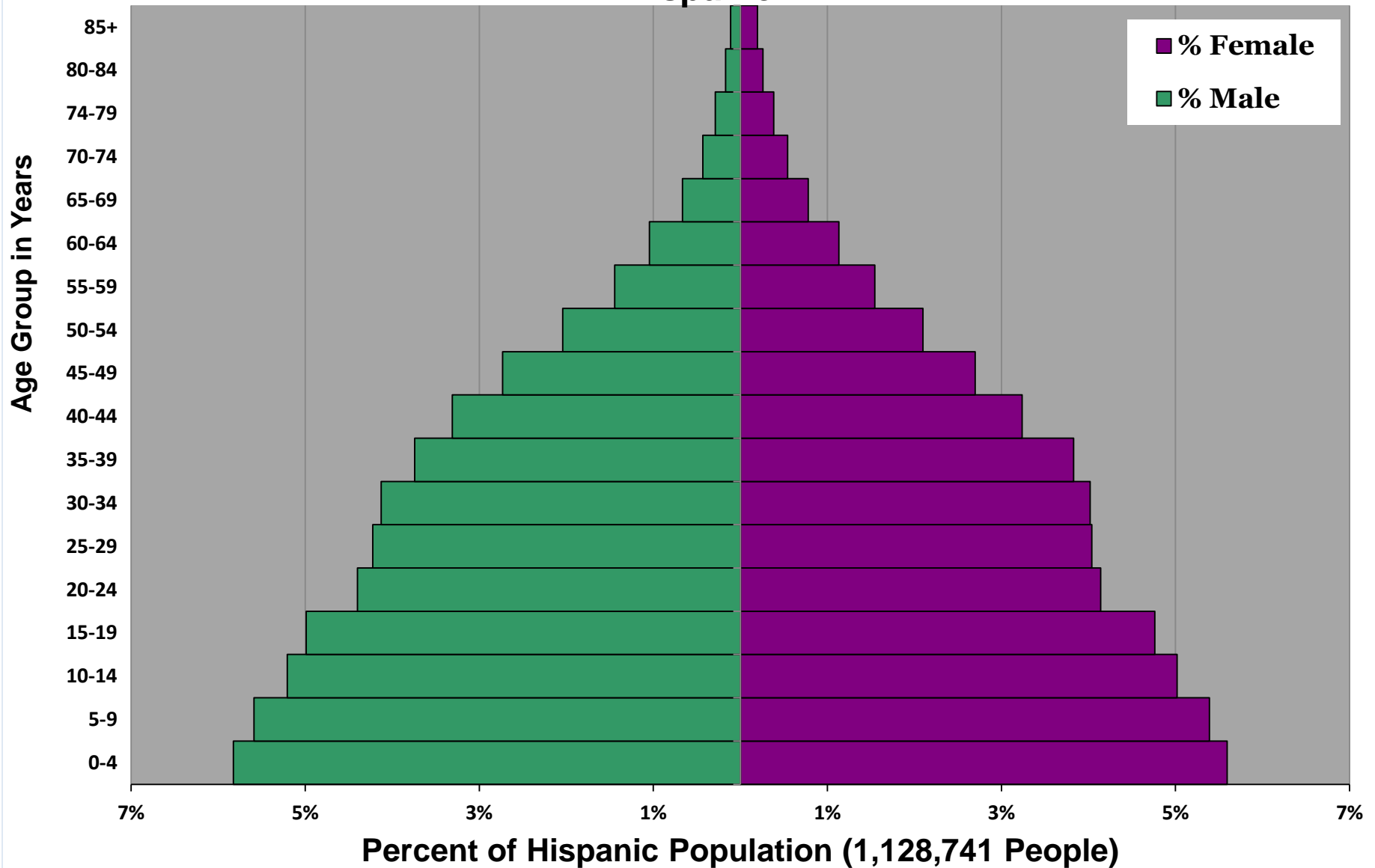


## Population Pyramid for Maricopa County by Age and Sex, 2010 White, Non-Hispanic

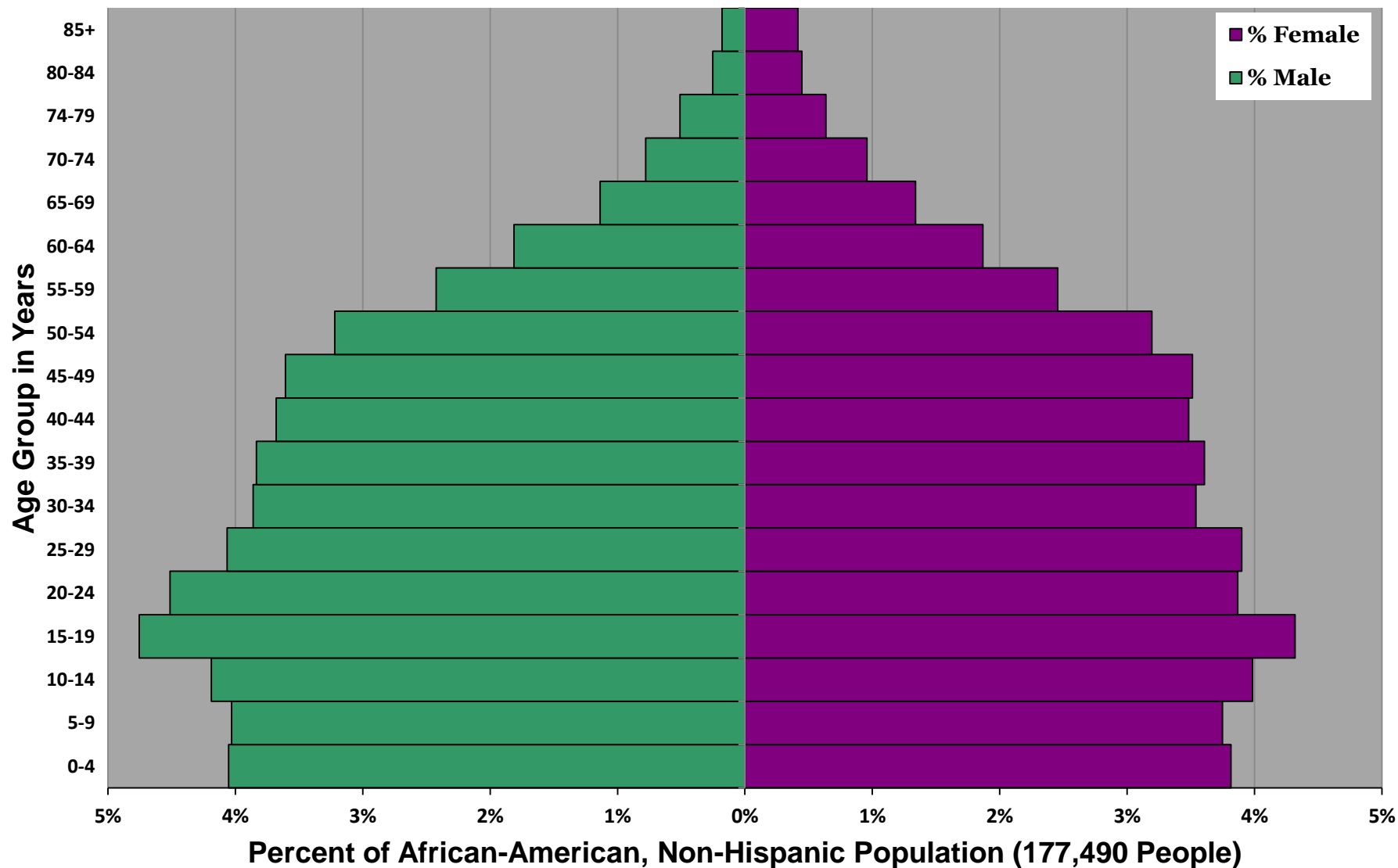


Source: 2010 Census

## Population Pyramid for Maricopa County by Age and Sex, 2010 Hispanic



## Population Pyramid for Maricopa County by Age and Sex, 2010 African-American, Non-Hispanic



# Economic Status of Maricopa County

- \$27,816 Per capita income
- \$55,054 Median Household Income
- In Maricopa County, 17.4% live below the Federal Poverty Level (FPL) guidelines. In 2011, the FPL was set a \$22,350 for a family of four.
- In the city of Phoenix, 22.9% live below the FPL guidelines.

Source: U.S. Census Bureau, 2010/2011

# Economic Status of Maricopa County

- 8.5% Unemployment rate\*
- 1 in 24 households in foreclosure during 2011, equal to about 90,000 homes^
- Over 2,400 homeless persons were counted in 2010 by the Department of Economic Security

\*Maricopa County Board of Supervisors, 2010

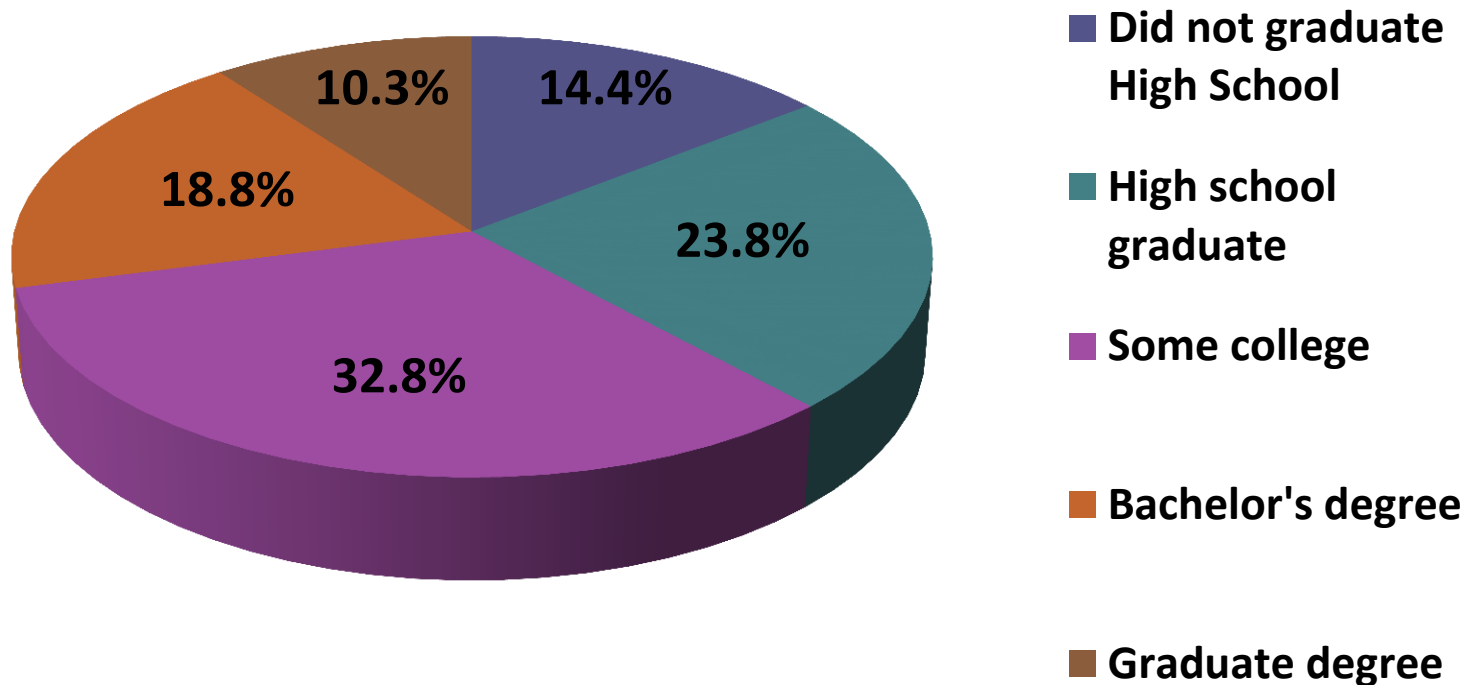
^RealtyTrac, 2011

# Social Statistics

- 10.1% of households are single parent families
- 26% of families have a female head of household
- 26.5% of households speak a language other than English at home

Source: U.S. Census Bureau, 2010

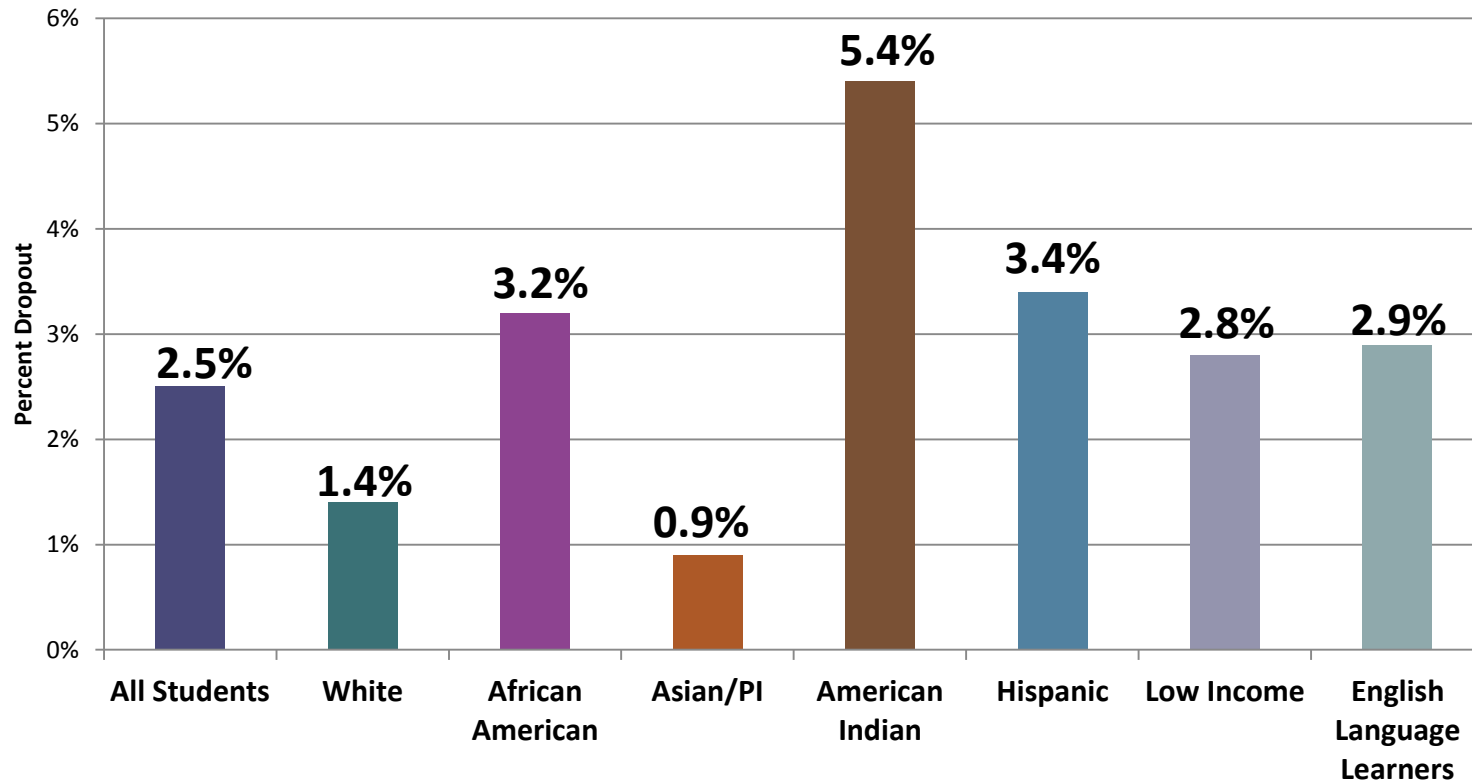
# Educational Attainment for Maricopa County Residents



Source: U.S. Census Bureau, 2010

# Educational Attainment for Maricopa County Residents

Dropout rates by racial/ethnic group and other categorizations



Source: Arizona Department of Education, 2010



# Disability Prevalence

- Ages 18- 64 years old:
  - 2.8% with an independent living difficulty, +/- 0.1%
- Ages 65 years and older:
  - 13.1% with an independent living difficulty, +/- 0.5%

# Maternal and Child Health

# Maternal and Child Health

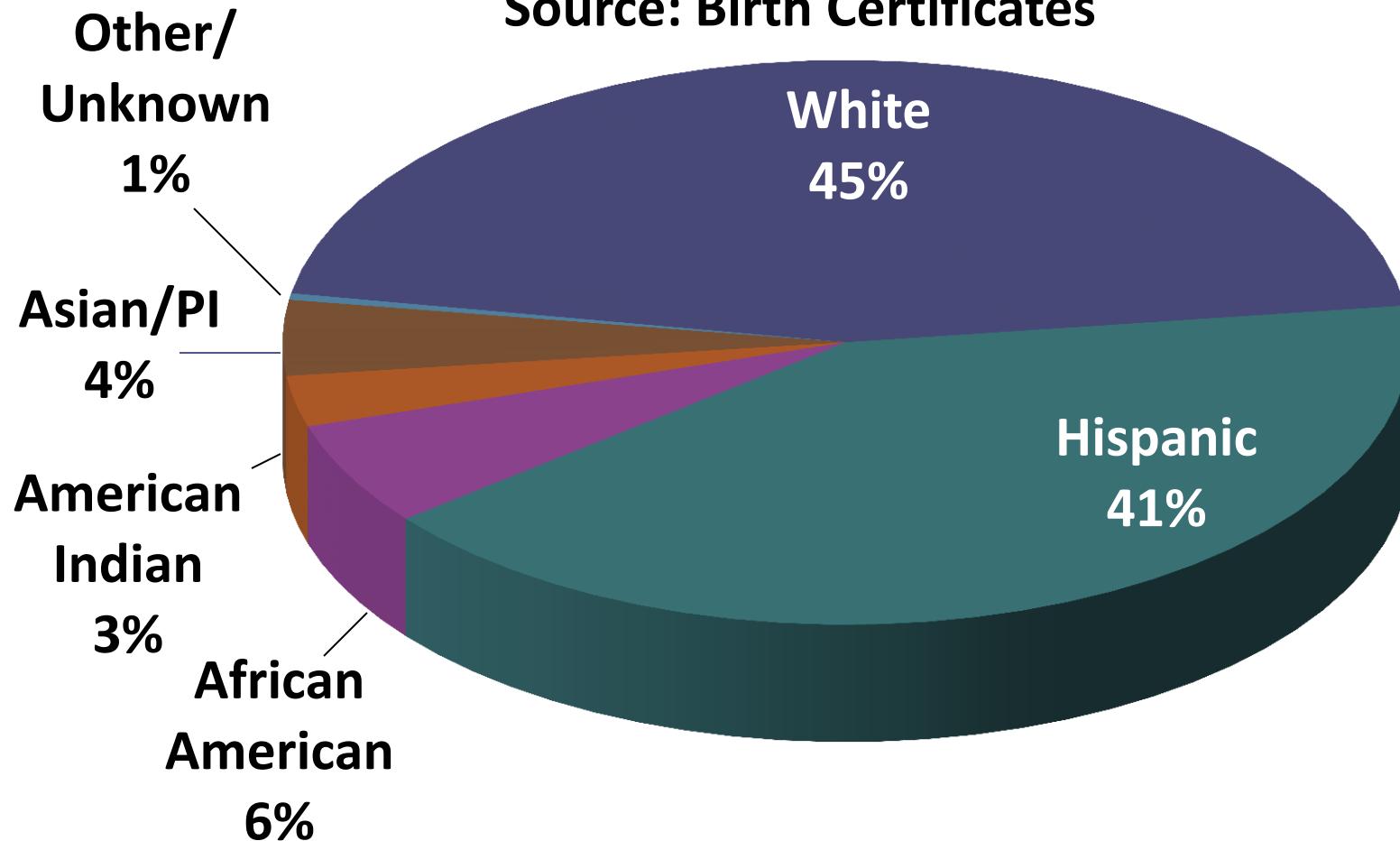
- Infant mortality slightly improved over the last decade
- Rates of many Maricopa County MCH measures are favorable versus the U.S.
  - When you race-adjust, however, not so positive
- 1 in 10 births were to teen mothers
  - More among Hispanics, African Americans, American Indians
- 1 in 4 Maricopa County mothers didn't get adequate prenatal care in 2010
  - More among Hispanics, African Americans, American Indians
- 1 in 14 births were low birthweight (under 2500 grams)
  - More among African Americans, American Indians

# Live Births by Racial/Ethnic Group

## Maricopa County 2010

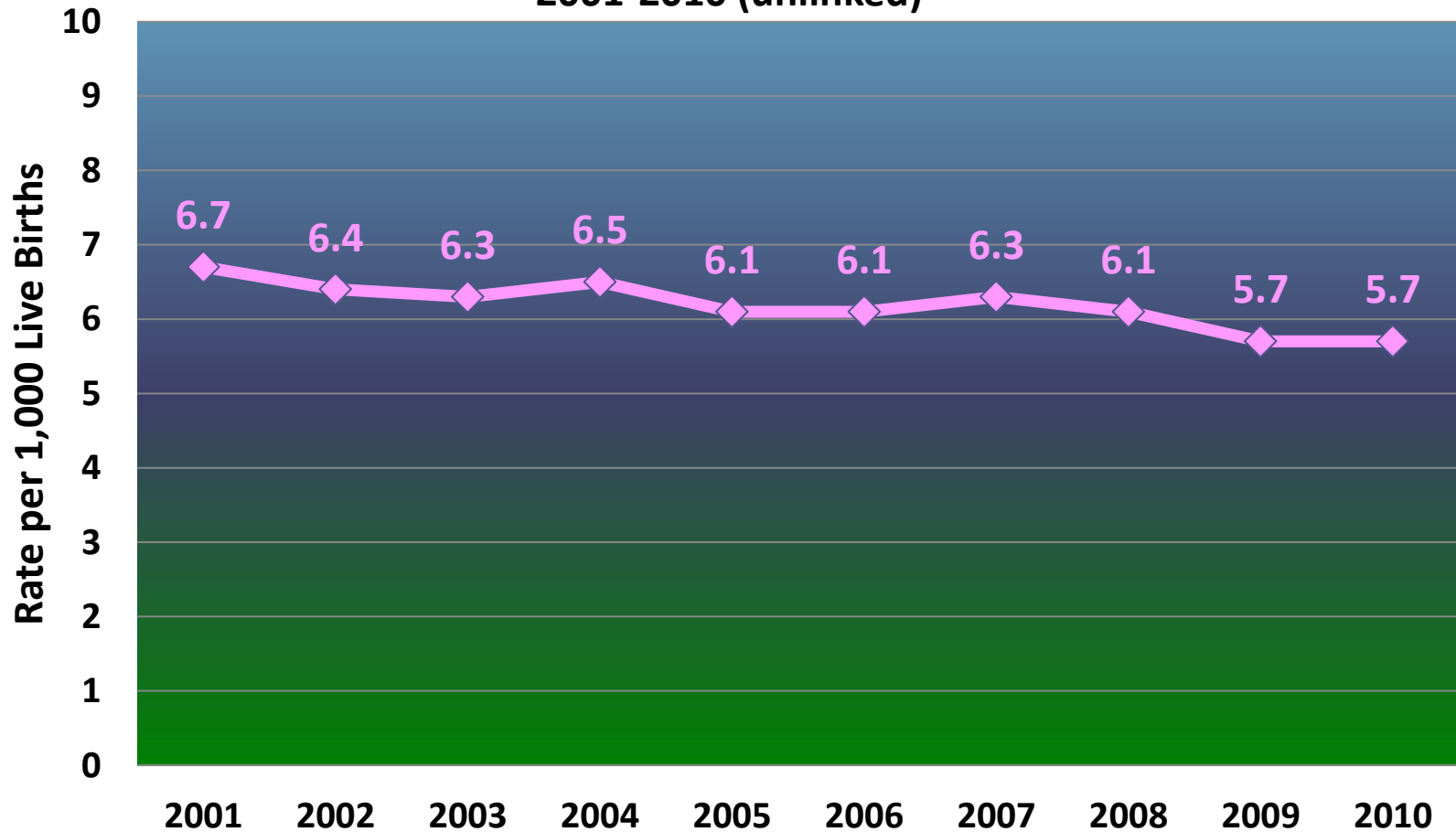
Total Births = 54,235

Source: Birth Certificates



# Infant Mortality

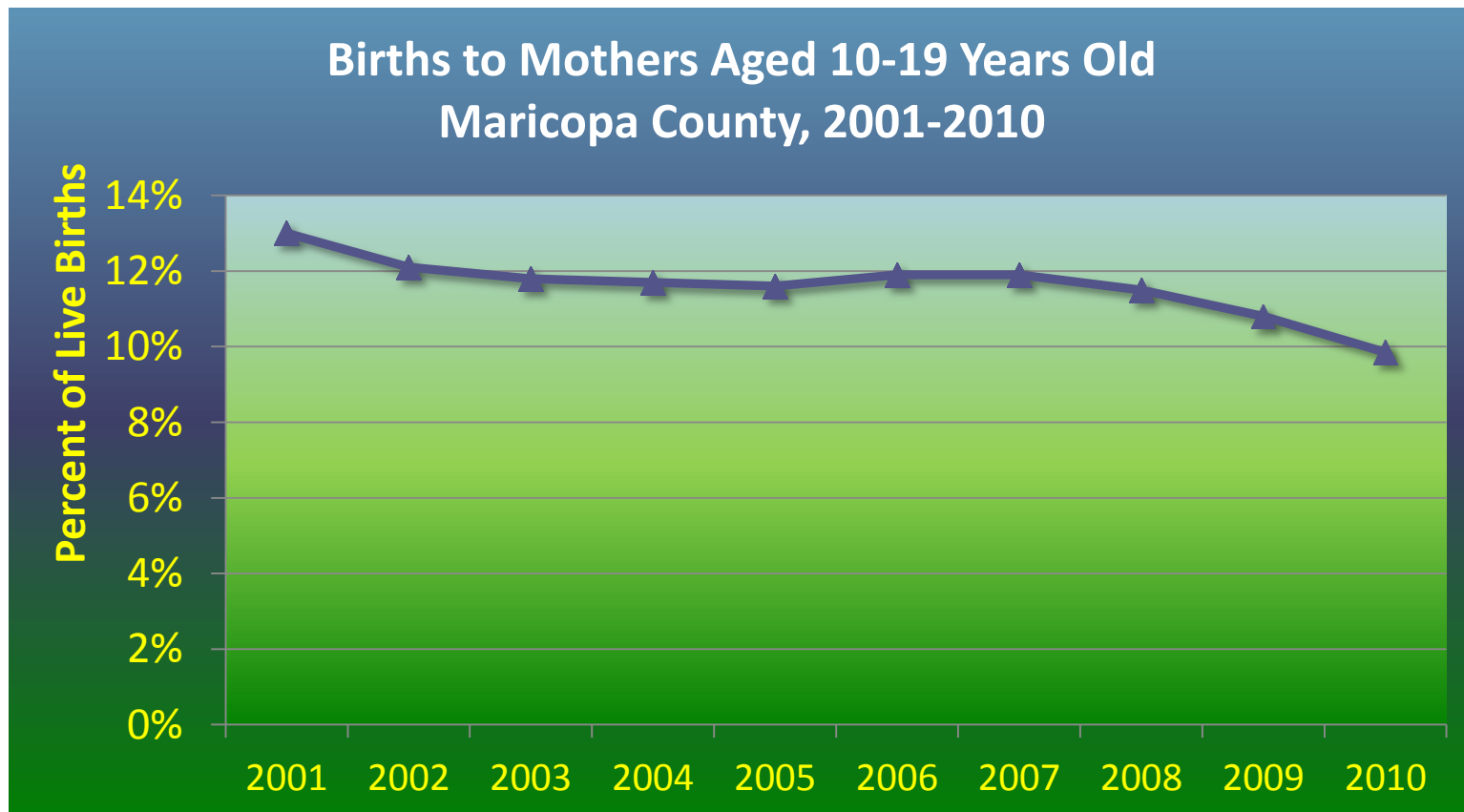
Maricopa County  
2001-2010 (unlinked)



Infant mortality rate per 1,000 live births was significantly lower in 2009 (5.7 ) and 2010 (5.7) compared to 2001 (6.7).

Source: Birth and Death Certificates

# Births to Teen Mothers

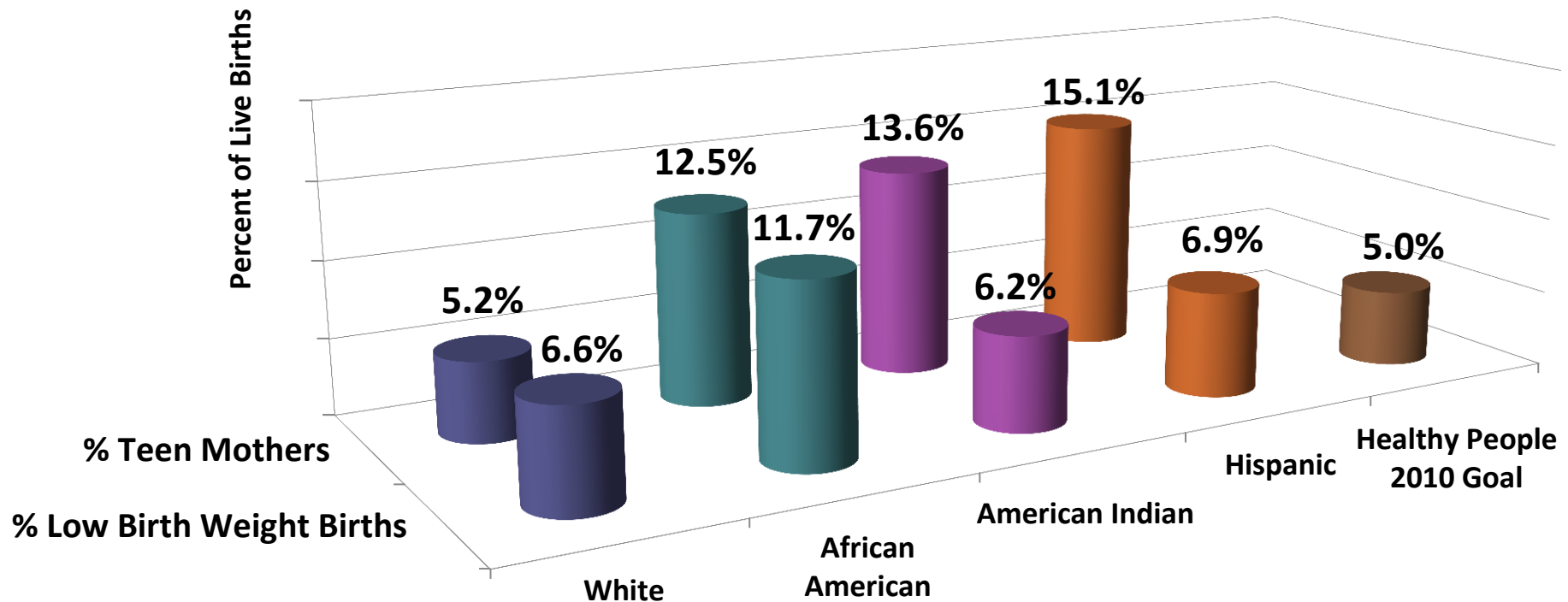


Compared to 2001, the percentage of live births to mothers aged 10-19 years was significantly lower in all years (2002-2010).

Source: Birth Certificates

# Low Birthweight Births (<2500 grams) & Births to Teen Mothers

Maricopa County, 2010

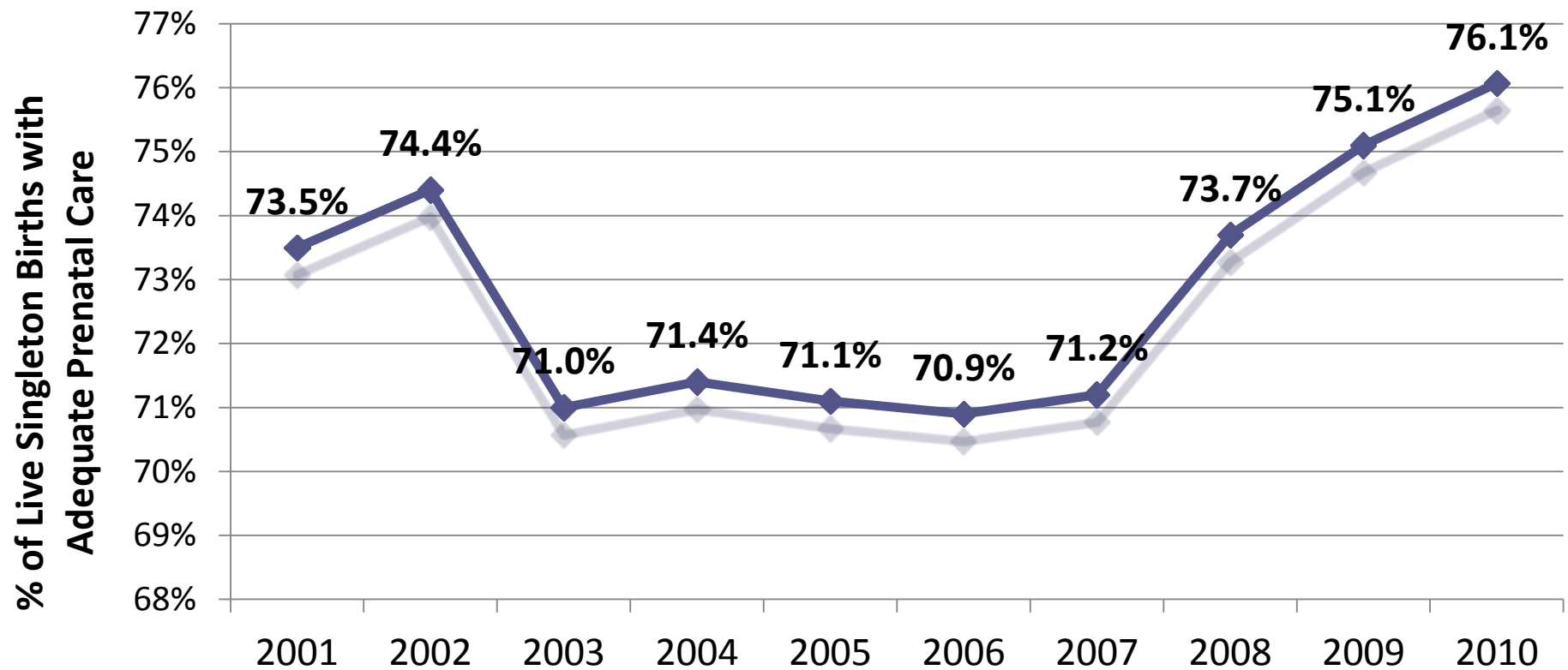


Source: Birth Certificates

African Americans had a significantly higher percentage of low birthweight births compared to Whites. Hispanics, African Americans, and American Indians had significantly higher percentages of births to teen mothers compared to Whites

# Adequate Prenatal Care

Maricopa County, 2001-2010



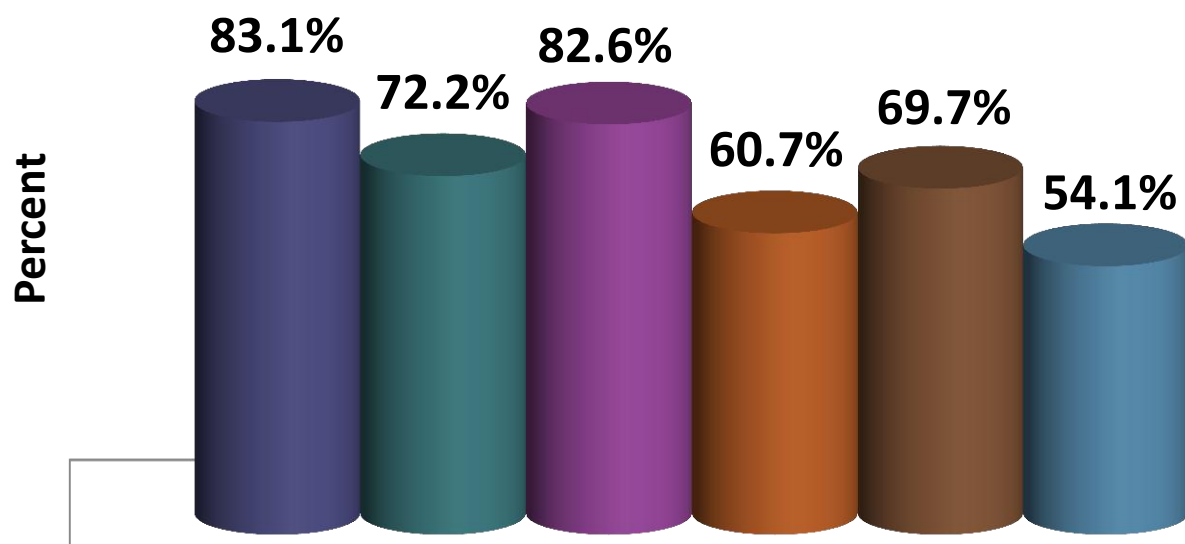
The percentage of singleton births receiving adequate prenatal care dropped significantly in the years 2003-2007 compared to 2001, but rose significantly in 2009 and 2010 compared to 2001.



# Adequate Prenatal Care

Maricopa County, 2010

■ White ■ African American ■ Asian/PI ■ American Indian ■ Hispanic ■ Other

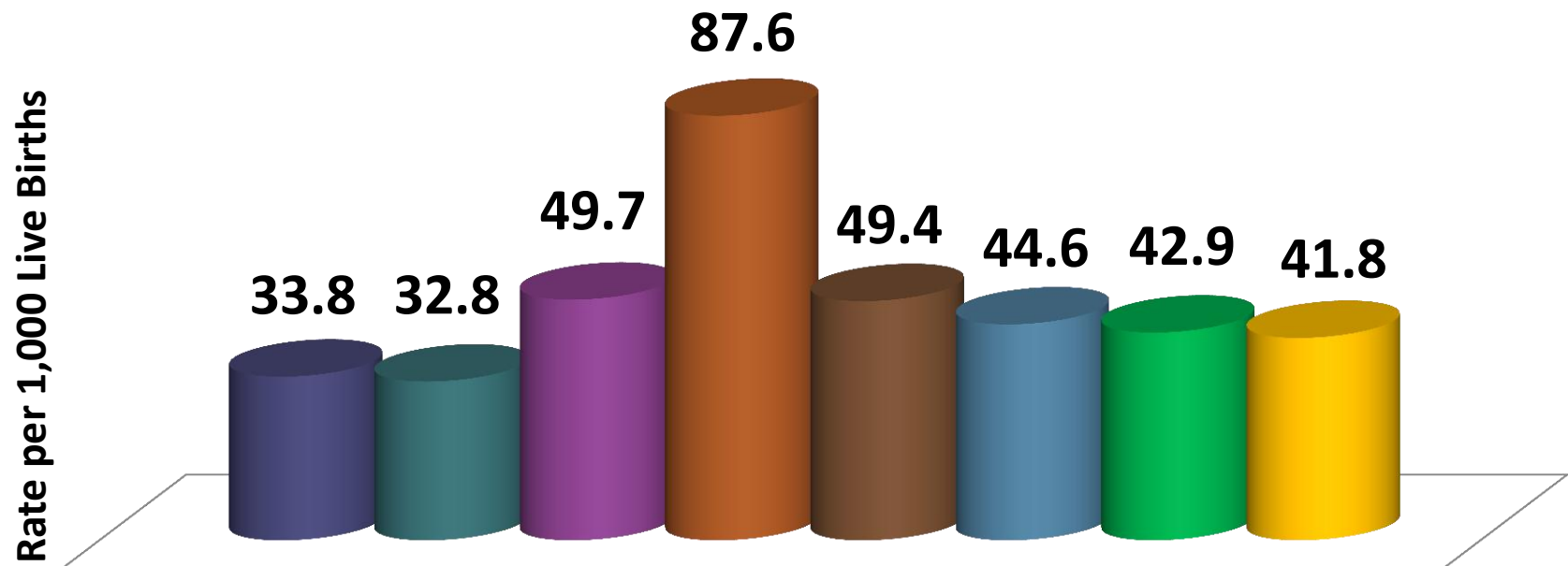


Hispanics, African Americans, and American Indians had significantly lower percentages of adequate prenatal care compared to Whites. Other was not tested for statistical significance.

# Gestational Diabetes

Maricopa County, 2010

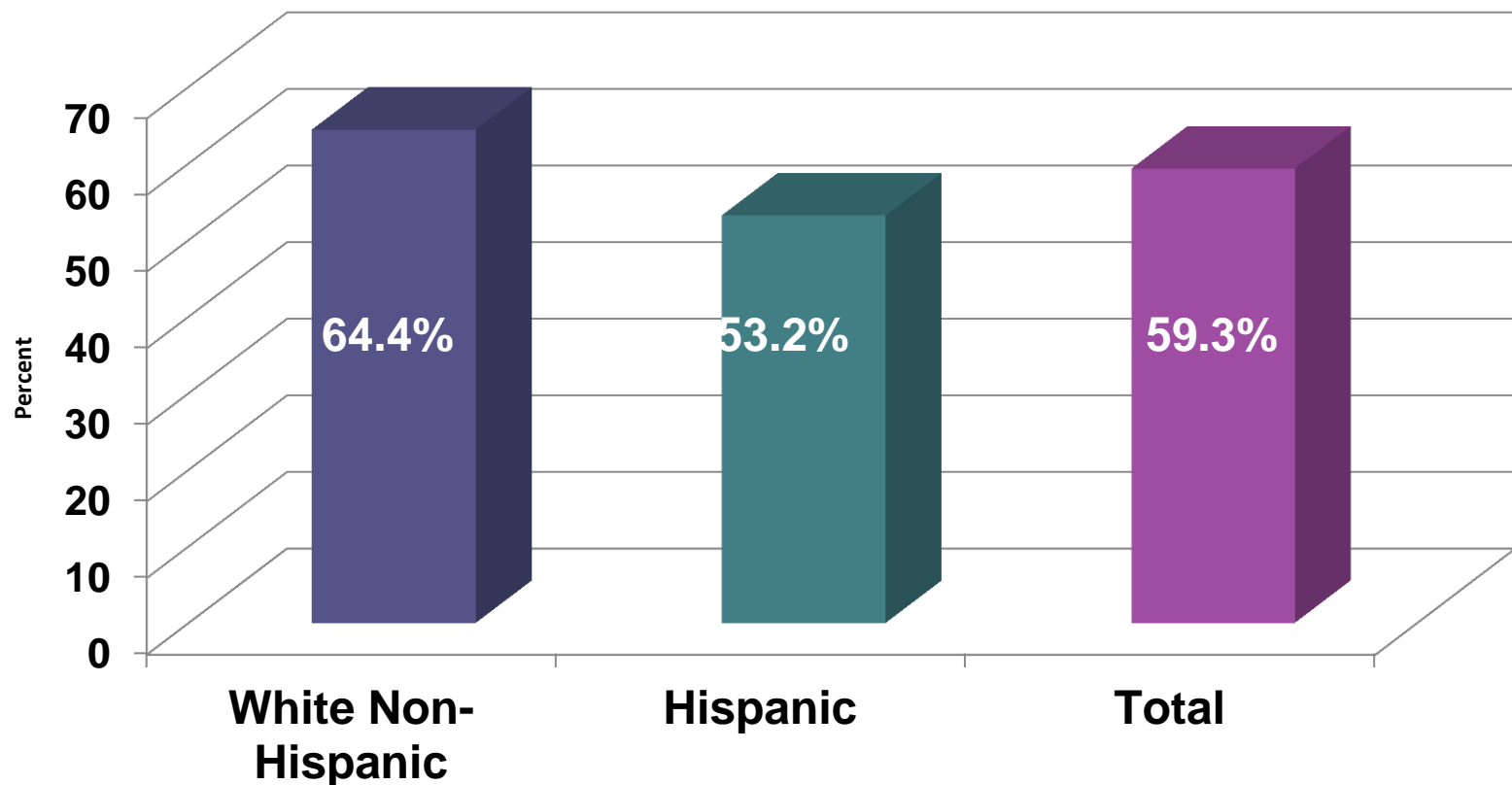
■ White ■ African American ■ Asian/PI ■ American Indian ■ Hispanic ■ Other ■ MC ■ AZ



Source: Birth Certificates - diabetes listed as a medical risk factor

# Folic Acid Awareness

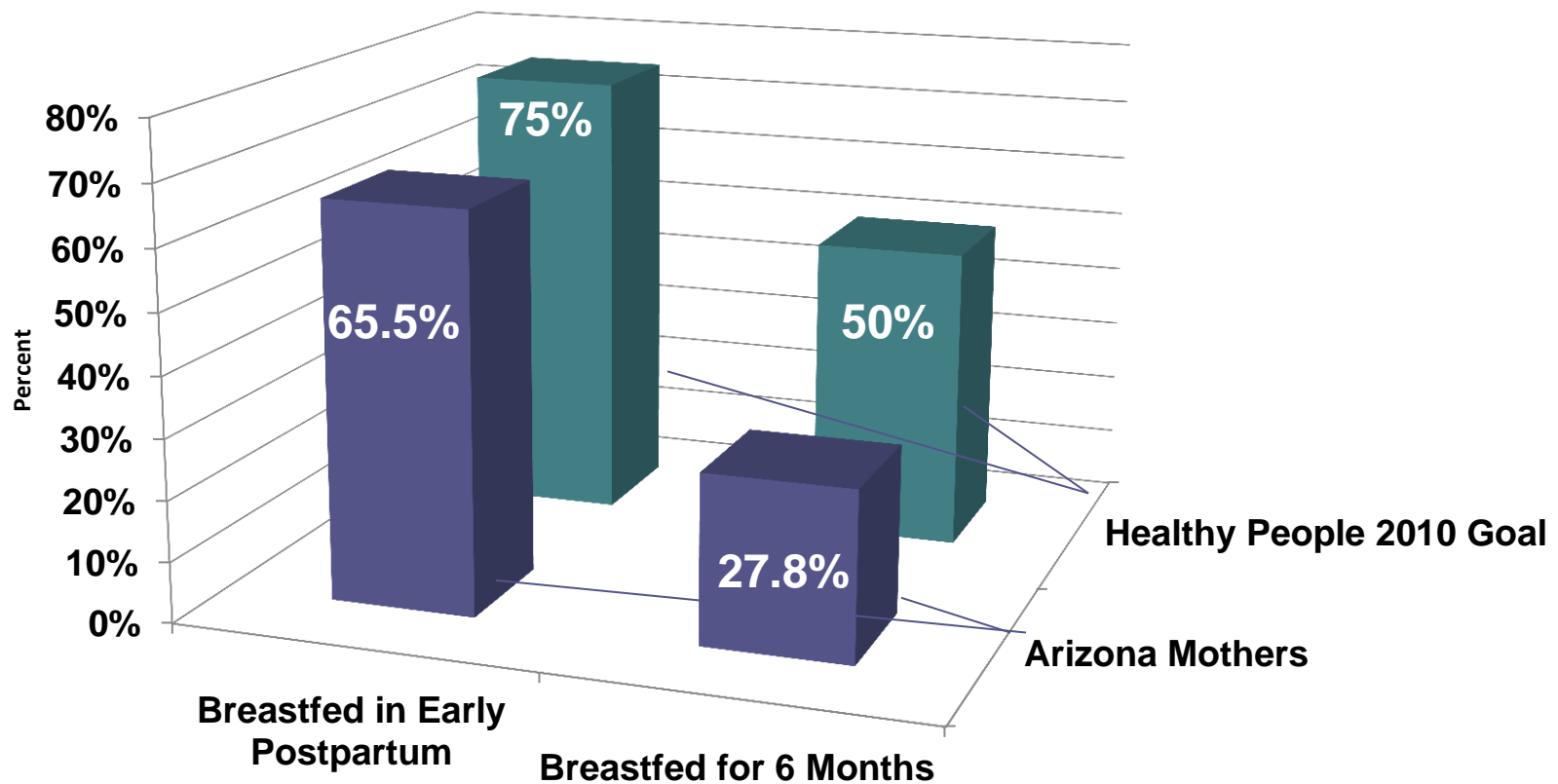
Percent of Arizona female respondents aged 18 to 44 years who reported knowing that folic acid supplementation prevents birth defects



Source: BRFSS, 2010

# Breastfeeding

- The CDC recommends exclusive breastfeeding for infants up to 6 months of age



Source: PedNSS, 2009

# Postpartum Depression

- Approximately 10 to 15% of new mothers in the United States experience PPD (CDC 2009)
- Incidence may be higher among low-income and ethnic minority women (CDC 2009, Gavin et al. 2005)
- A longitudinal study among low-income, predominantly Hispanic new mothers in South Phoenix revealed clinically significant levels of PPD in 33 to 38% of the sample (Gress-Smith et al. 2011)

# Abuse

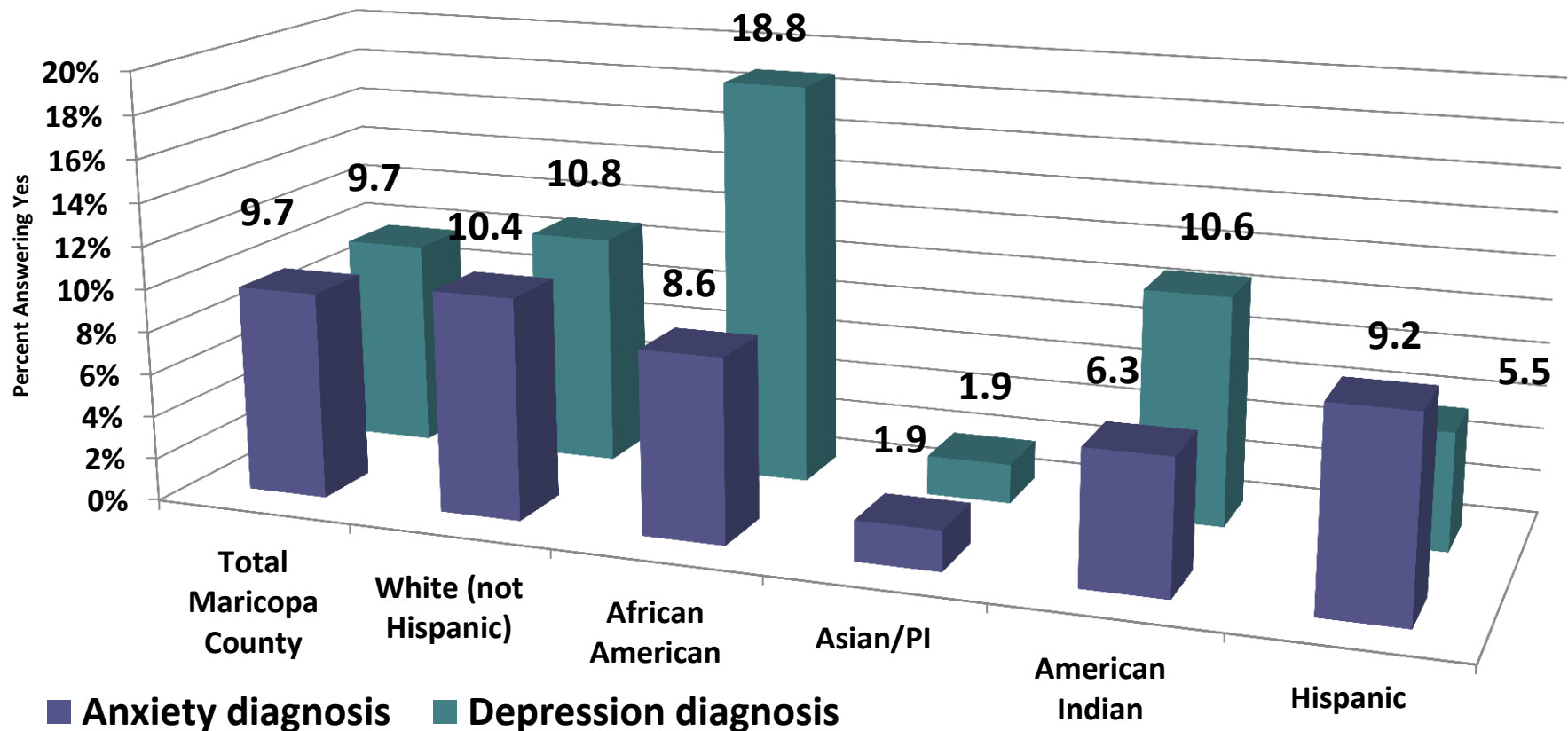
- Child abuse:
  - 19,537 reports of child abuse and neglect in Arizona in 2009\*
  - 60% of victims suffer from neglect
  - 33% suffer from physical abuse
  - 6% of cases involve sexual abuse
- In Maricopa County, 470 arrests were made in 2011 for offenses against families and/or children (Arizona Department of Public Safety)

Sources: \*Children's Action Alliance; Arizona Child Abuse Info Center

# Social Determinants of Health

# Has a doctor ever told you that you have major/clinical depression, or an anxiety disorder?

*Maricopa County, Arizona Health Survey 2010, St. Luke's Health Initiatives*

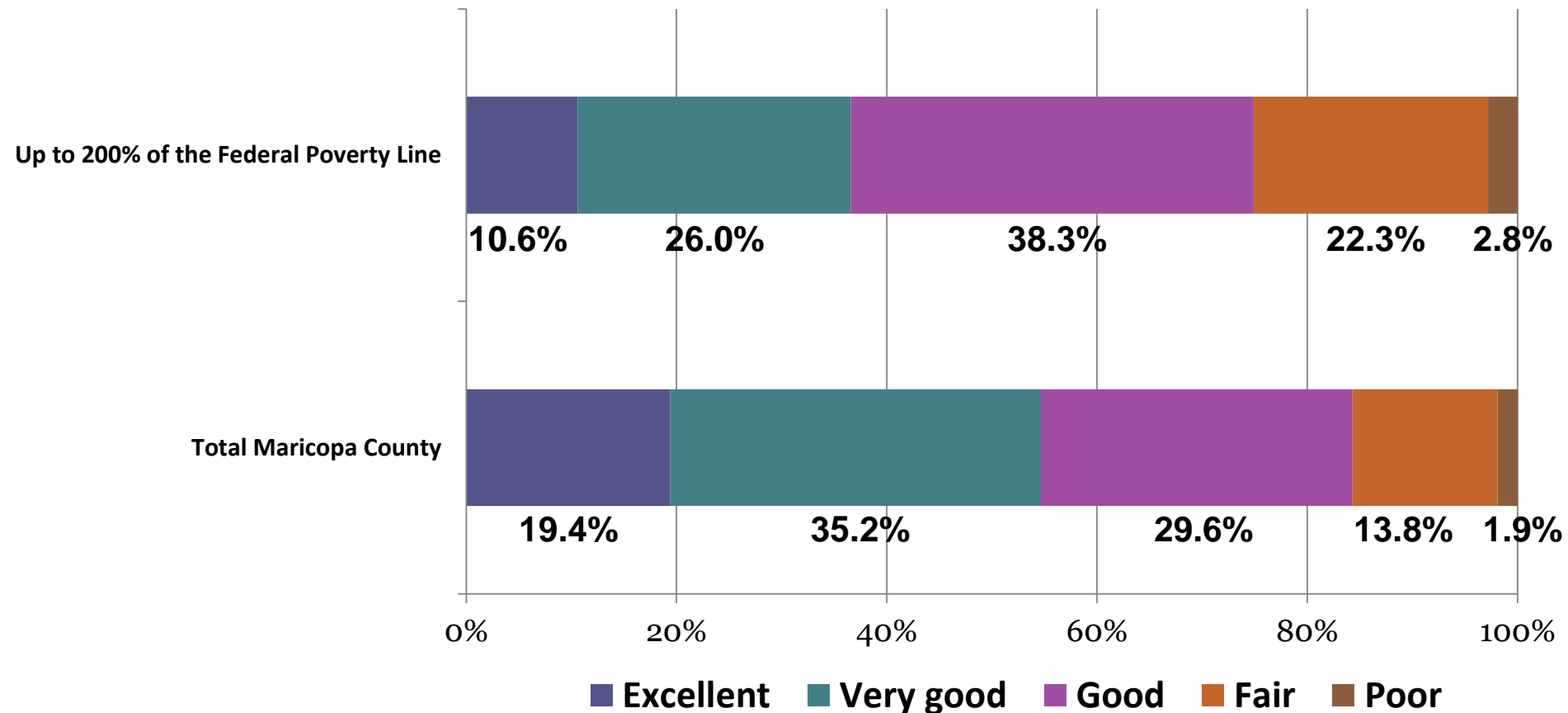


*These data were presented in March 2012 to the data expert group. The sample sizes are small so caution should be used when drawing conclusions based on these data.*



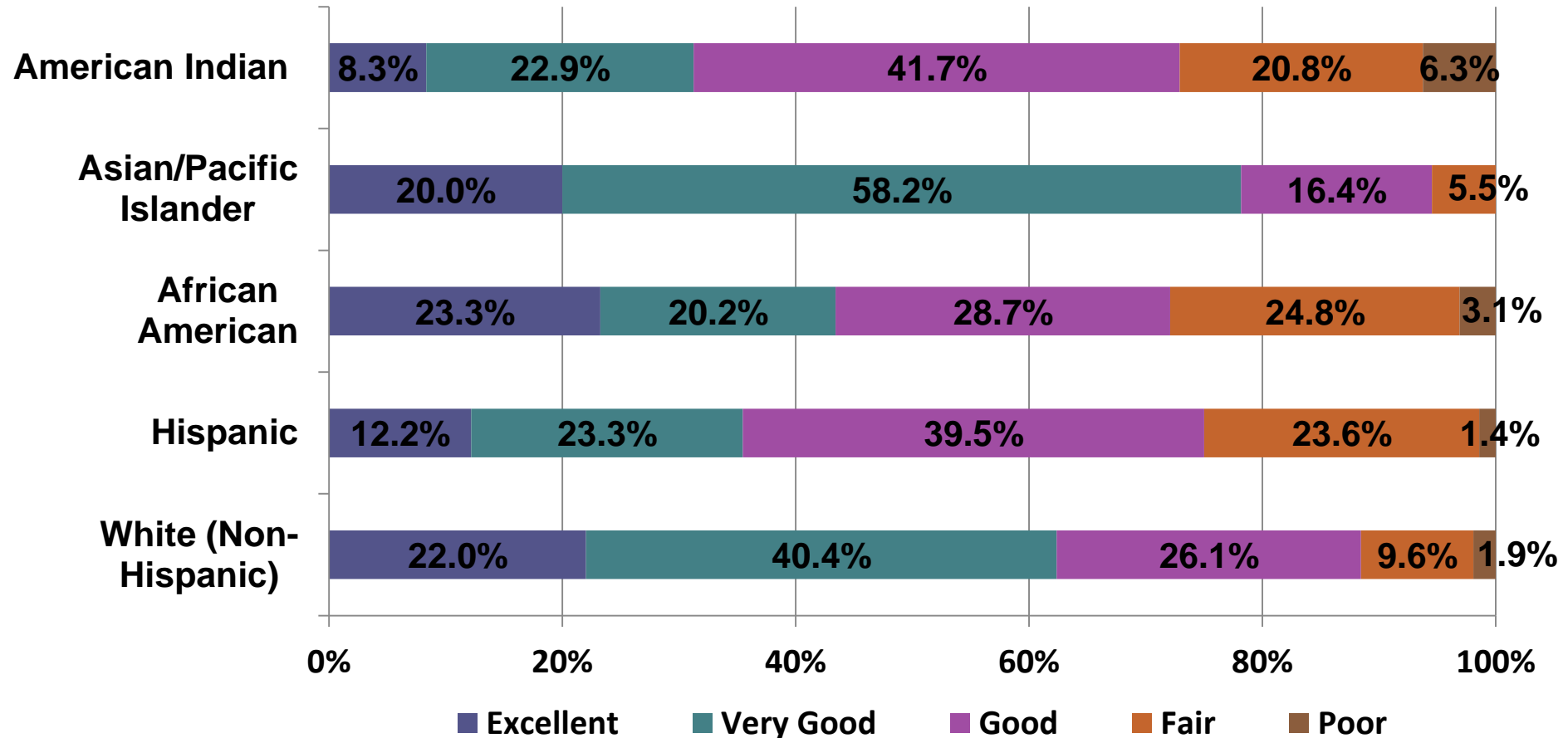
# How would you rate your quality of life and sense of well being?

*Maricopa County, Arizona Health Survey 2010, St. Luke's Health Initiatives*



# How would you rate your quality of life and sense of well being?

Maricopa County, Arizona Health Survey 2010, St. Luke's Health Initiatives



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# Domestic Violence

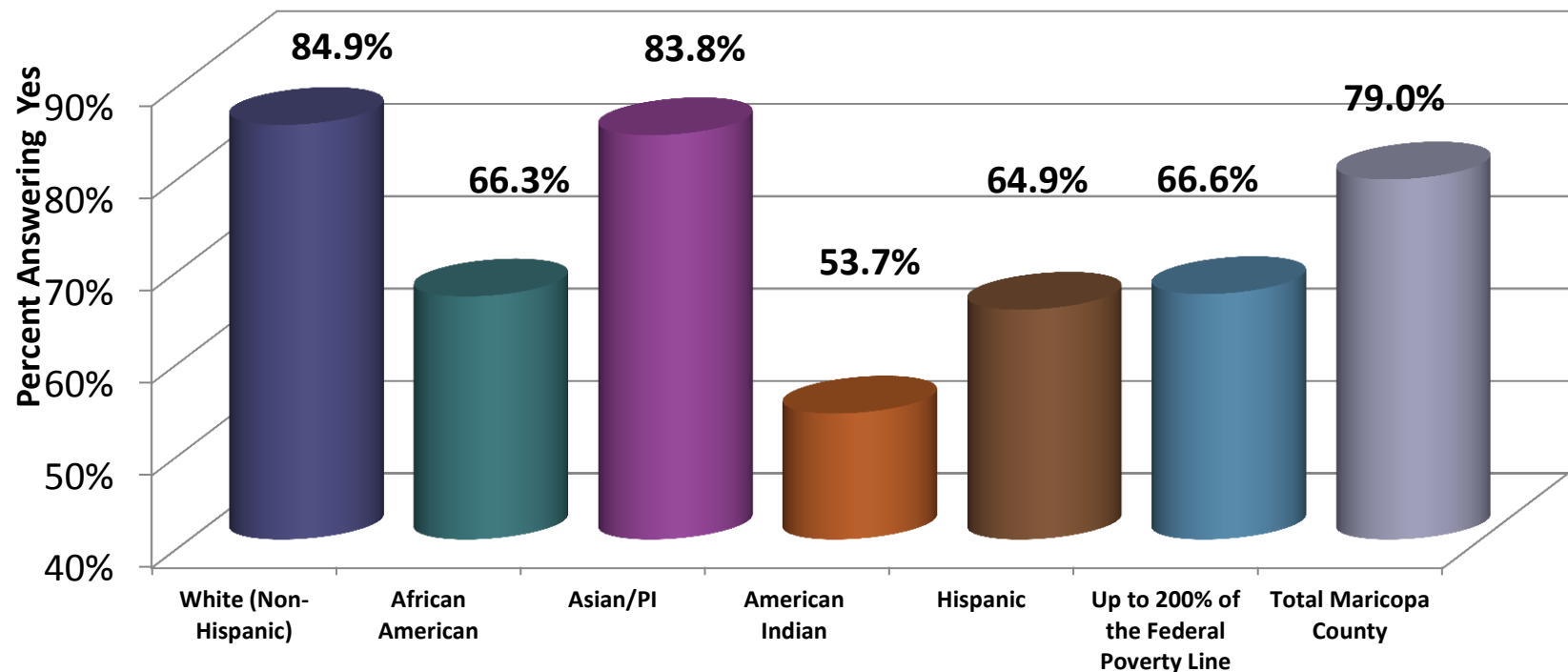
- 11% of Maricopa County residents responded that they had ever experienced domestic violence
- 6.6% of residents responded that they had ever experienced sexual violence
- According to the Arizona Coalition Against Domestic Violence, 41 homicides occurred in 2011 in Maricopa County as a result of DV
  - 27 victims were women
  - 14 victims were men
  - 11 victims were children (<15 years old)

Source: BRFSS 2010

# Neighborhood Cohesiveness Score

*Based on 7 questions from the Arizona Health Survey 2010,  
St. Luke's Health Initiatives, Maricopa County*

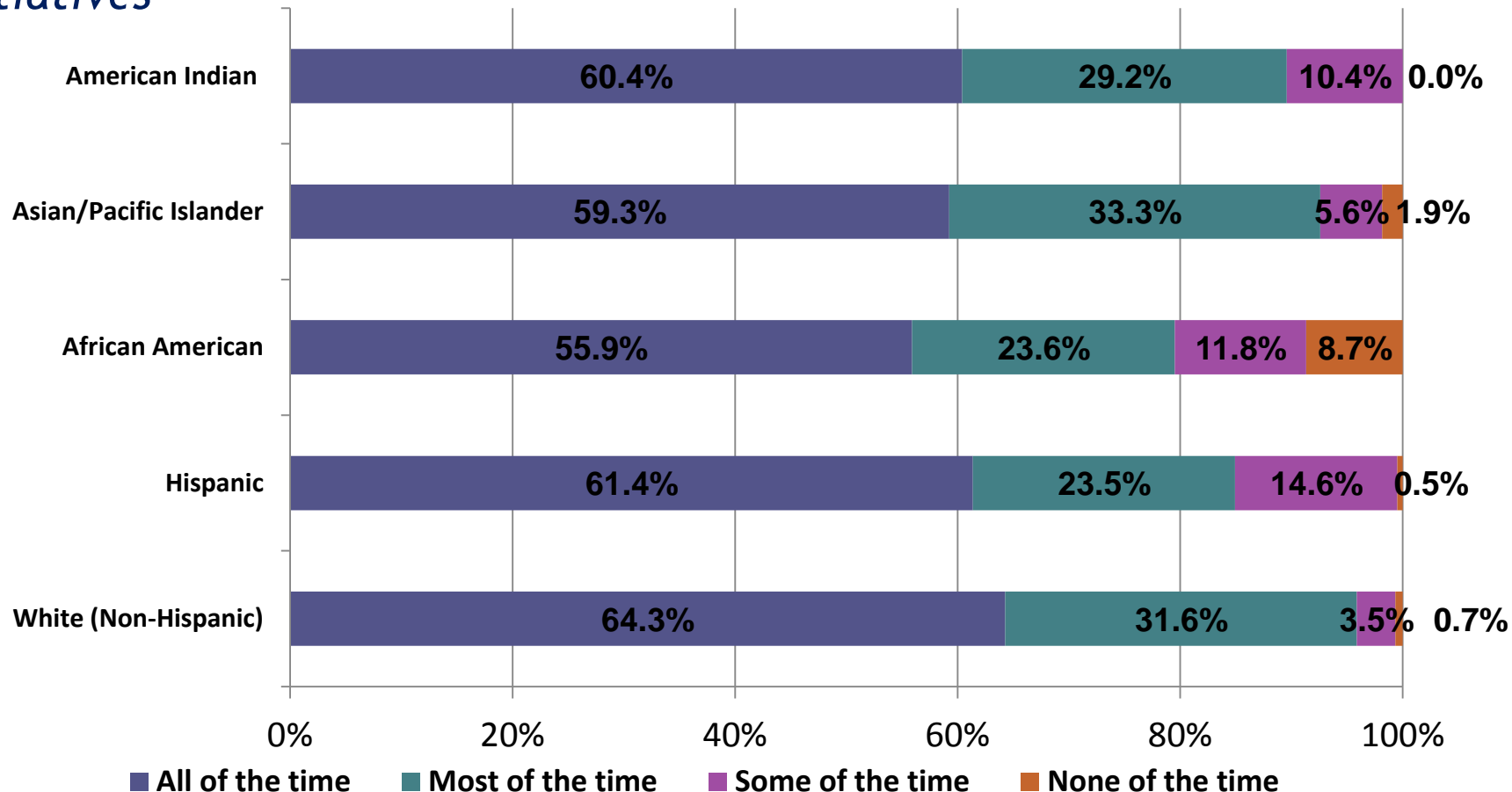
## Lives in a Supportive Neighborhood



*These data were presented in March 2012 to the data expert group. The sample sizes are small so caution should be used when drawing conclusions based on these data.*

# Do you feel safe in your neighborhood?

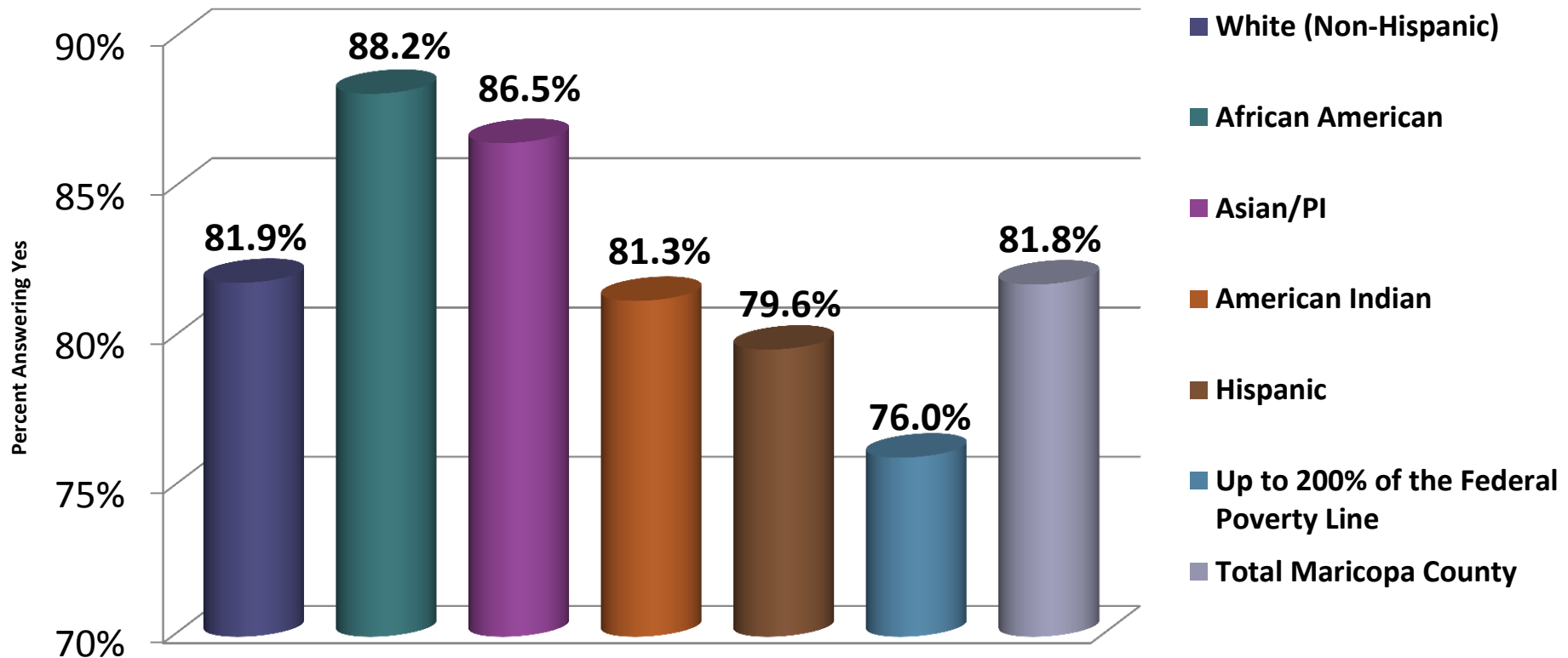
*Maricopa County, Arizona Health Survey 2010, St. Luke's Health Initiatives*



*These data were presented in March 2012 to the data expert group. The sample sizes are small so caution should be used when drawing conclusions based on these data.*

# Is there a park, playground, or open space within walking distance of your home?

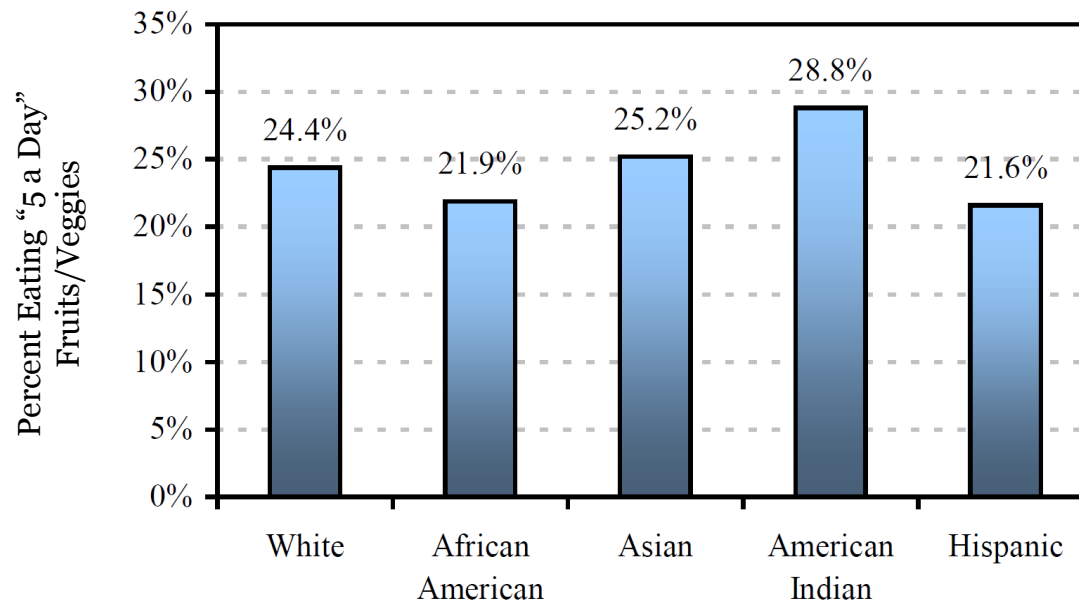
*Maricopa County, Arizona Health Survey 2010, St. Luke's Health Initiatives*



*These data were presented in March 2012 to the data expert group. The sample sizes are small so caution should be used when drawing conclusions based on these data.*

# Access to Healthy Foods

- About 23% of adults in Maricopa County eat “5 a day” fruits and vegetables, with little variation based on income group. (range varies from 23.0% to 23.3%)
- There is also little variation between racial/ethnic groups:



Source: BRFSS 2001- 2007

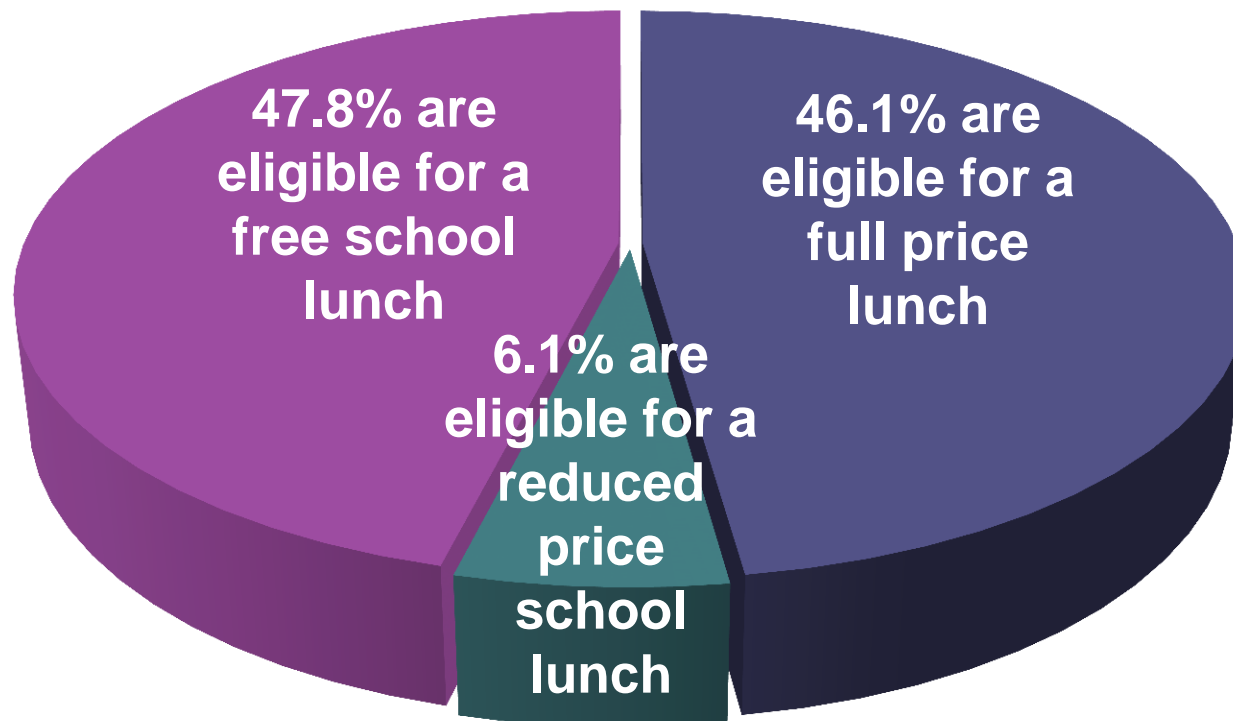
# Access to Healthy Foods

- Within Congressional District 4, located in the heart of Phoenix, 31.8% of families have difficulty providing adequate food on a regular basis. Congressional District 4 ranks as **fifth** out of 436 districts in the US for limited access to food. (The Food Research Action Center, 2011)
- More than 600,000 individuals (over 50% of them children) received Supplemental Nutrition Assistance Program (SNAP, or Food Stamps) benefits in 2011. (Department of Economic Security)



# Free & Reduced Price School Lunch

Of 657,594 students enrolled in Maricopa County schools (public, private, and charter) 53.9% are eligible for a free or reduced price lunch. Free and reduced lunch eligibility is often used as an indicator for determining low-income students or school districts.



Source: Arizona  
Department of  
Education, 2011

# Vaccine Preventable Diseases

# Vaccine Preventable Diseases

- Very few cases of VPDs exist in the county
- Well documented effect of vaccination
- Good vaccination rates
- Possible barriers to better vaccination rates:
  - 1 in 25 kids in Maricopa County exempted due to medical or religious reasons
  - Changes in vaccination funding

# Maricopa County Cases and Rates, 2001-2010

Pertussis case count reached 144 in 2011

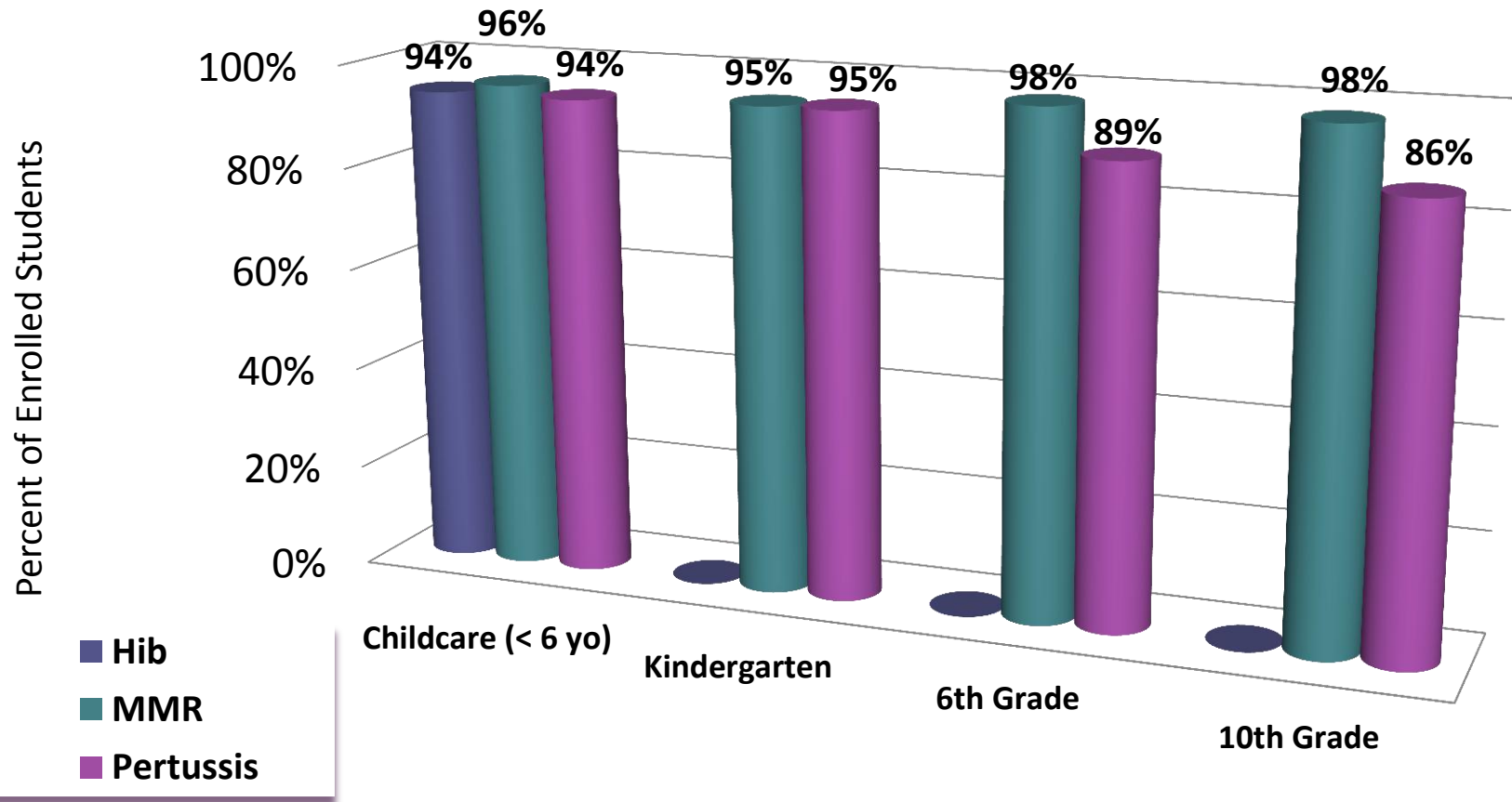
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
H. influenzae	40	56	44	44	60	54	46	56	50	62
Rate	1.3	1.7	1.3	1.3	1.7	1.5	1.2	1.5	1.3	1.6
Measles	1	0	1	0	1	0	0	0	0	0
Rate	0	0	0	0	0	0	0	0	0	0
Mumps	2	0	1	1	0	3	4	0	4	4
Rate	0.1	0	0	0	0	0.1	0.1	0	0.1	0.1
Pertussis	145	58	75	109	248	21	12	20	65	63
Rate	4.6	1.8	2.3	3.2	7	0.6	0.3	0.5	1.7	1.7

No statistically significant change in H. influenzae rates. The pertussis rate for 2005 was significantly higher than in 2001, but significantly lower for all other years. Measles and mumps had too few cases to test for significance.

Source: ADHS FYE Communicable Disease Data

# Vaccination Rates, Arizona

## 2010/11 School Year

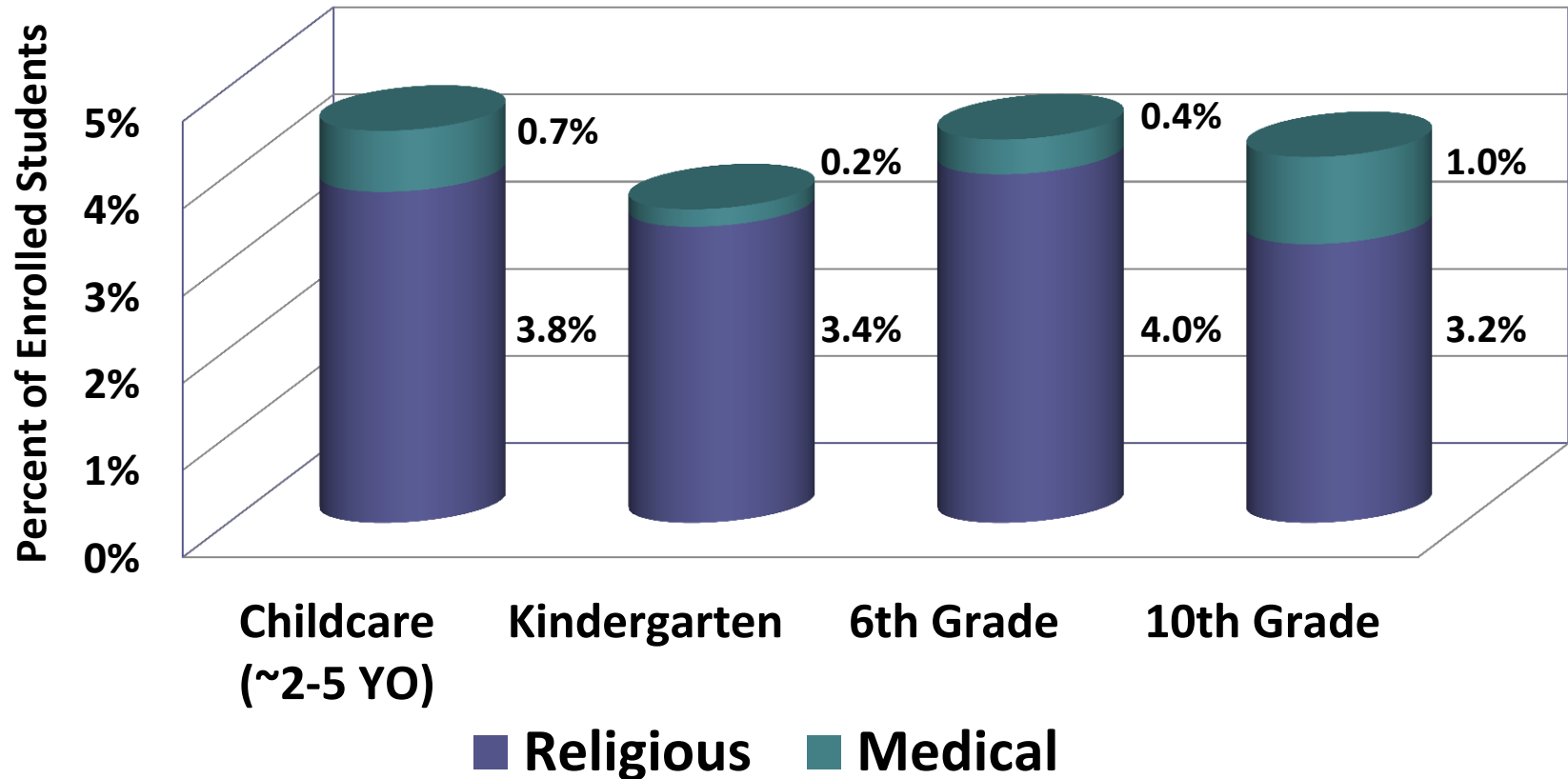


Source: Arizona Immunization Program Office, Assessment Unit, ADHS, 7/6/2011, Immunization Data Reports from Arizona childcare centers (19-59 months of age) and schools (kindergarten, 6<sup>th</sup> grade, 10<sup>th</sup> grade). Hib vaccine is only for Hib, type B. Cases shown in previous slide are untyped. Pertussis is in DTaP vaccine for younger two age groups, Tdap for older two age groups.

# Effects of the Economic Climate

- State funding for vaccinations for insured children has been discontinued
- Federal funding will be discontinued in July of 2013
- Vaccinations for children are mandated by statute
- Currently, providers send insured and uninsured patients to public health departments

## Vaccine Exemptions by Age and Type 2010-2011 School Year, Arizona



Source: Arizona Immunization Program Office, Assessment Unit, ADHS, 7/6/2011, Immunization Data Reports from Arizona childcare centers (19-59 months of age) and schools (kindergarten, 6<sup>th</sup> grade, 10<sup>th</sup> grade)

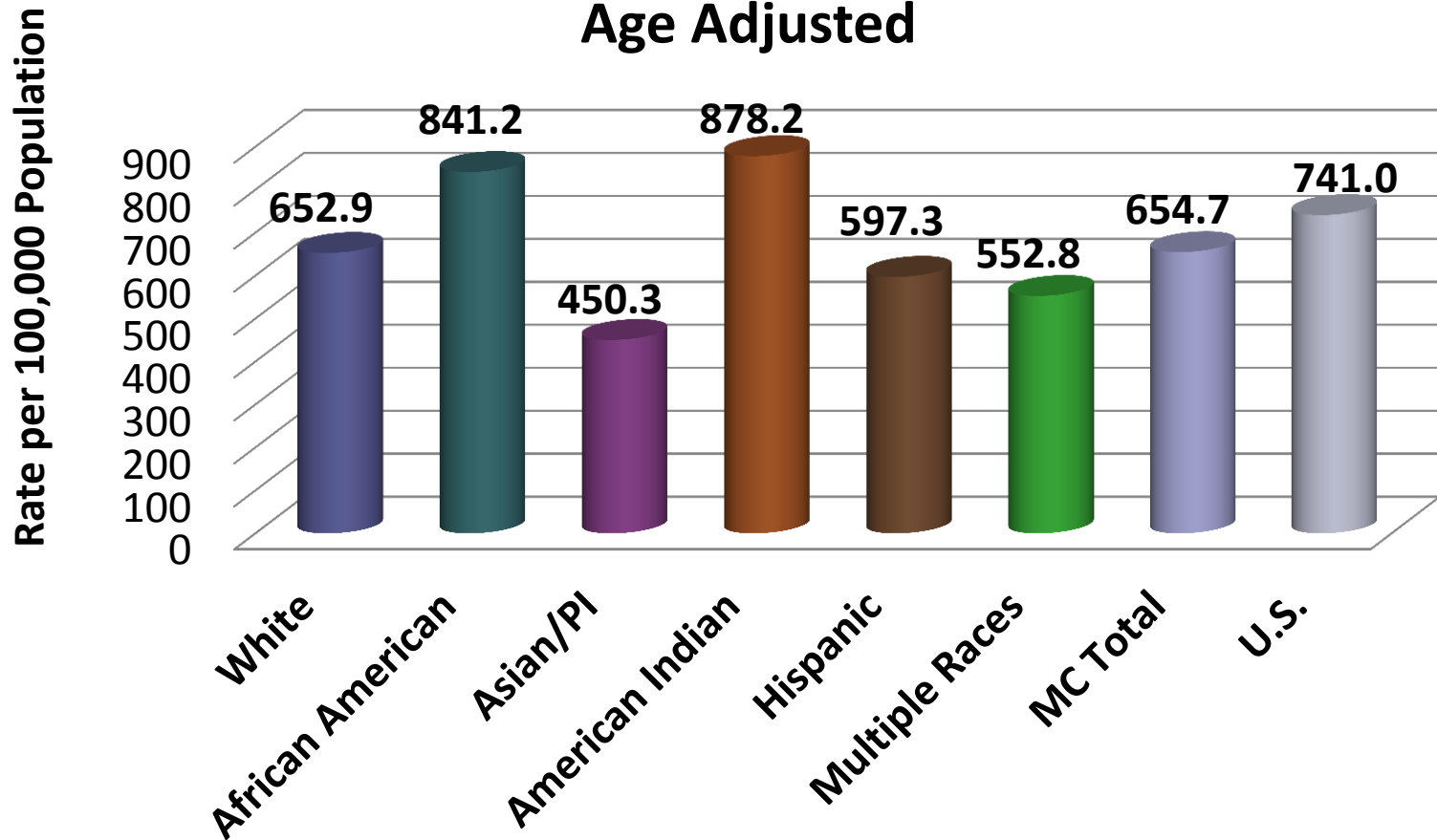
# Death Overview



2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Heart Disease 5,918	Heart Disease 5,942	Heart Disease 5,966	Heart Disease 5,775	Heart Disease 6,011	Heart Disease 5,719	Heart Disease 5,517	Heart Disease 5,472	Cancer 5,420	Cancer 5,508
Cancer 4,975	Cancer 5,066	Cancer 5,160	Cancer 5,168	Cancer 5,177	Cancer 5,238	Cancer 5,323	Cancer 5,284	Heart Disease 5,419	Heart Disease 5,143
Chronic Lower Respiratory 1,386	Chronic Lower Respiratory 1,389	Chronic Lower Respiratory 1,357	Unintentional Injuries 1,444	Unintentional Injuries 1,685	Unintentional Injuries 1,805	Unintentional Injuries 1,695	Unintentional Injuries 1,680	Unintentional Injuries 1,596	Alzheimer's Disease 1,665
Stroke 1,380	Stroke 1,385	Stroke 1,313	Stroke 1,350	Chronic Lower Respiratory 1,506	Chronic Lower Respiratory 1,484	Alzheimer's Disease 1,454	Chronic Lower Respiratory 1,504	Alzheimer's Disease 1,481	Unintentional Injuries 1,243
Unintentional Injuries 1,363	Unintentional Injuries 1,314	Unintentional Injuries 1,299	Chronic Lower Respiratory 1,318	Stroke 1,270	Alzheimer's Disease 1,445	Chronic Lower Respiratory 1,407	Alzheimer's Disease 1,458	Chronic Lower Respiratory 1,444	Chronic Lower Respiratory 1,463

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Alzheimer's Disease 721	Alzheimer's Disease 936	Alzheimer's Disease 1,103	Alzheimer's Disease 1,113	Alzheimer's Disease 1,246	Stroke 1,217	Stroke 1,114	Stroke 1,118	Stroke 1,068	Stroke 1,084
Pneumonia & Influenza 581	Pneumonia & Influenza 708	Pneumonia & Influenza 628	Diabetes 604	Pneumonia & Influenza 715	Diabetes 624	Diabetes 583	Diabetes 623	Diabetes 548	Diabetes 702
Diabetes 569	Diabetes 691	Diabetes 611	Pneumonia & Influenza 582	Diabetes 597	Pneumonia & Influenza 623	Suicide 551	Pneumonia & Influenza 539	Suicide 529	Suicide 548
Liver Disease 338	Suicide 457	Suicide 447	Suicide 458	Suicide 486	Suicide 498	Pneumonia & Influenza 456	Suicide 535	Pneumonia & Influenza 519	Liver Disease 386
Homicide 335	Liver Disease 350	Liver Disease 323	Liver Disease 320	Liver Disease 377	Liver Disease 357	Liver Disease 356	Liver Disease 382	Liver Disease 383	Pneumonia & Influenza 296

## Death Rates, All Causes Combined Maricopa County, US, 2010 Age Adjusted



Age adj. death rates were signif. higher for African Americans and American Indians compared to Whites, while rates for Asians and persons reporting multiple races were signif. lower. Maricopa County total death rate was signif. lower than that of the U.S. (U.S. 2010 rate was preliminary)

Source: Death Certificates

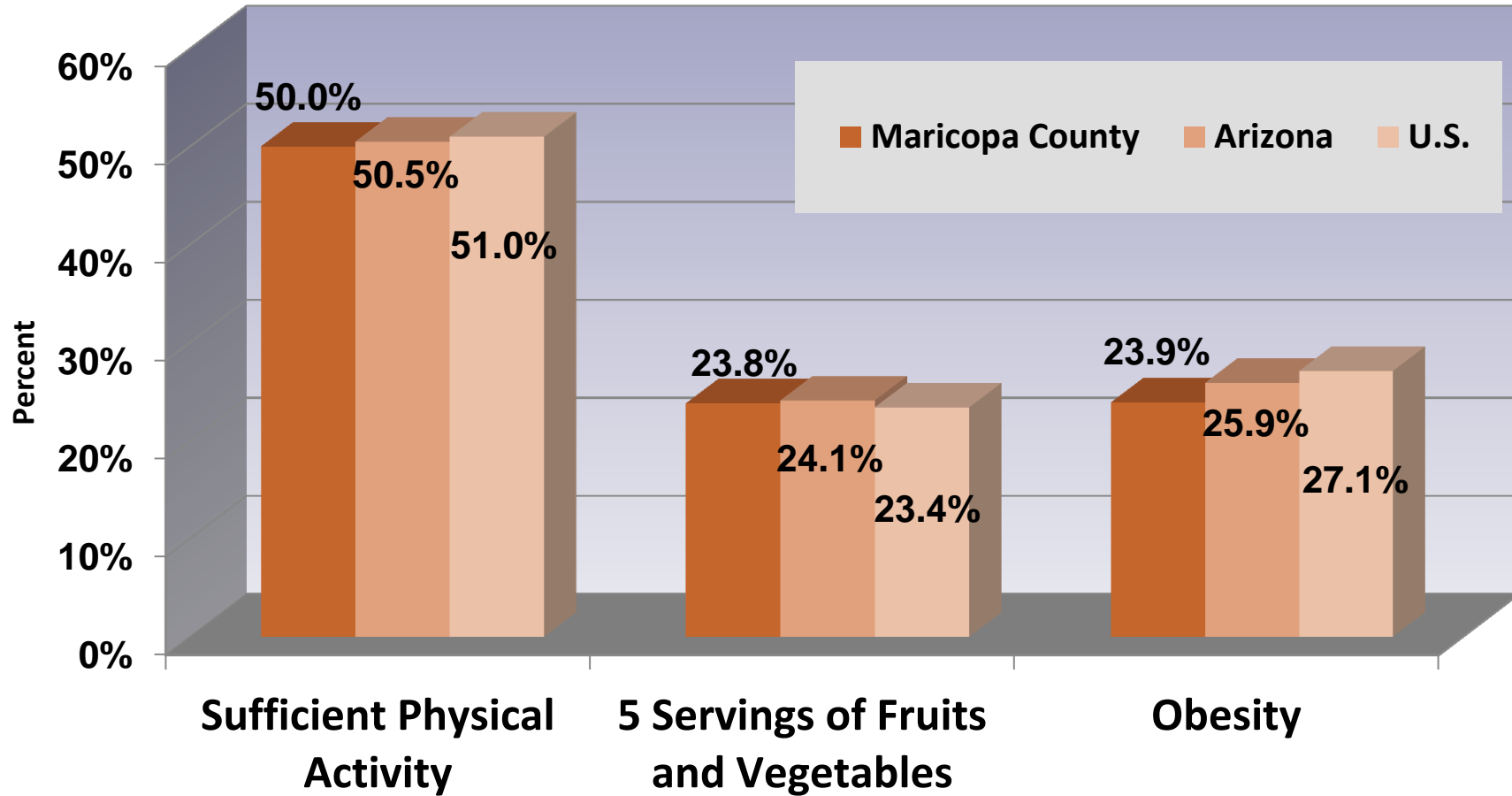
# Obesity

# Obesity

- Contributes to the second (heart disease) and seventh (diabetes) leading causes of death
  - Diabetes death rate is higher for Hispanics, African Americans, American Indians
  - 30,914 potential years of life lost (Maricopa County, 2010)
- 1 in 4 Maricopa County adults are obese
- 3 in 4 adults don't eat "Five a Day" (fruits and vegetables)
- 1 in 2 adults don't get sufficient exercise
- 1 in 8 high school students are obese
- 1 in 7 children under five years old are obese

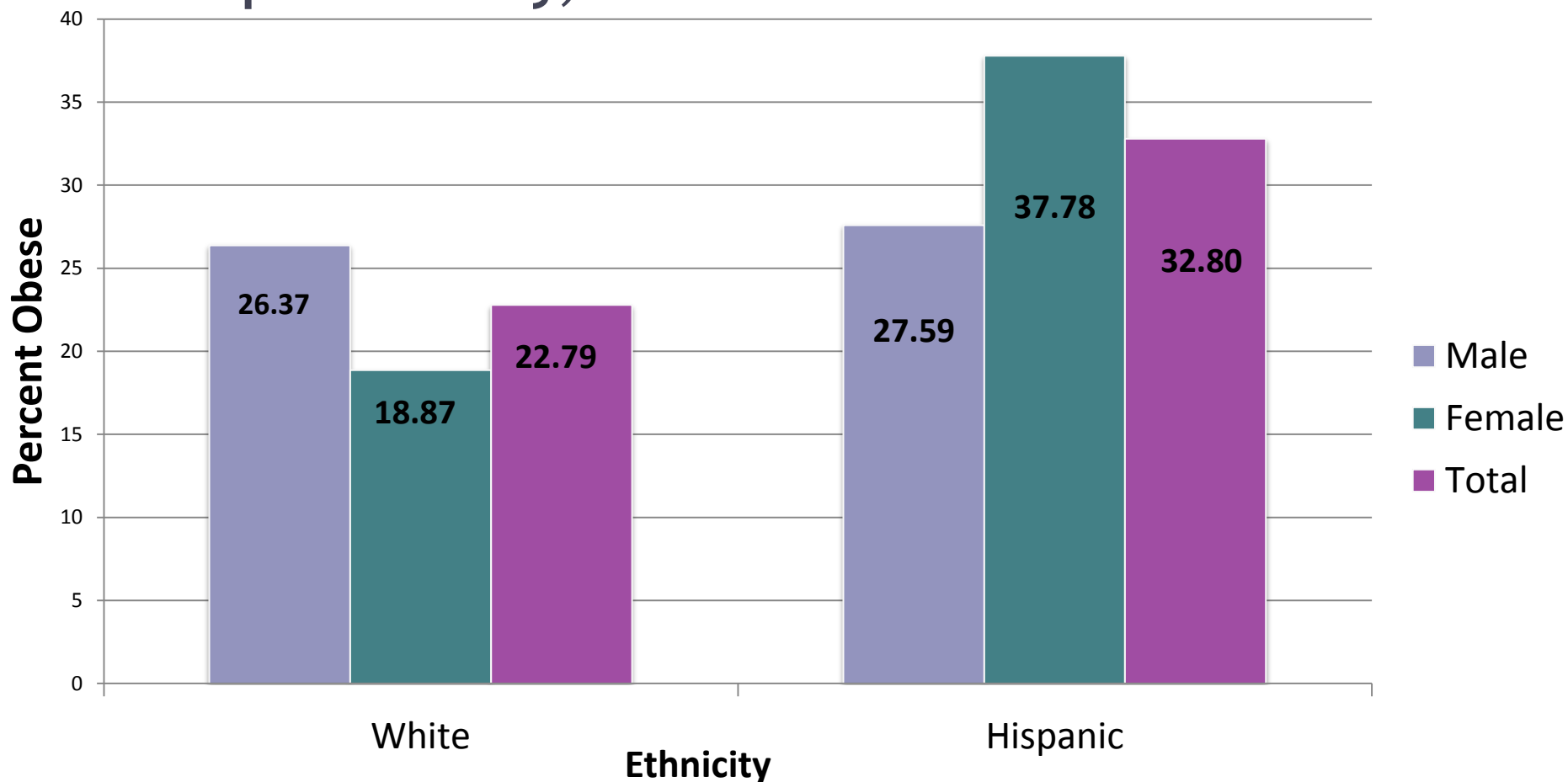
# Exercise and Nutrition

## Maricopa County, 2010



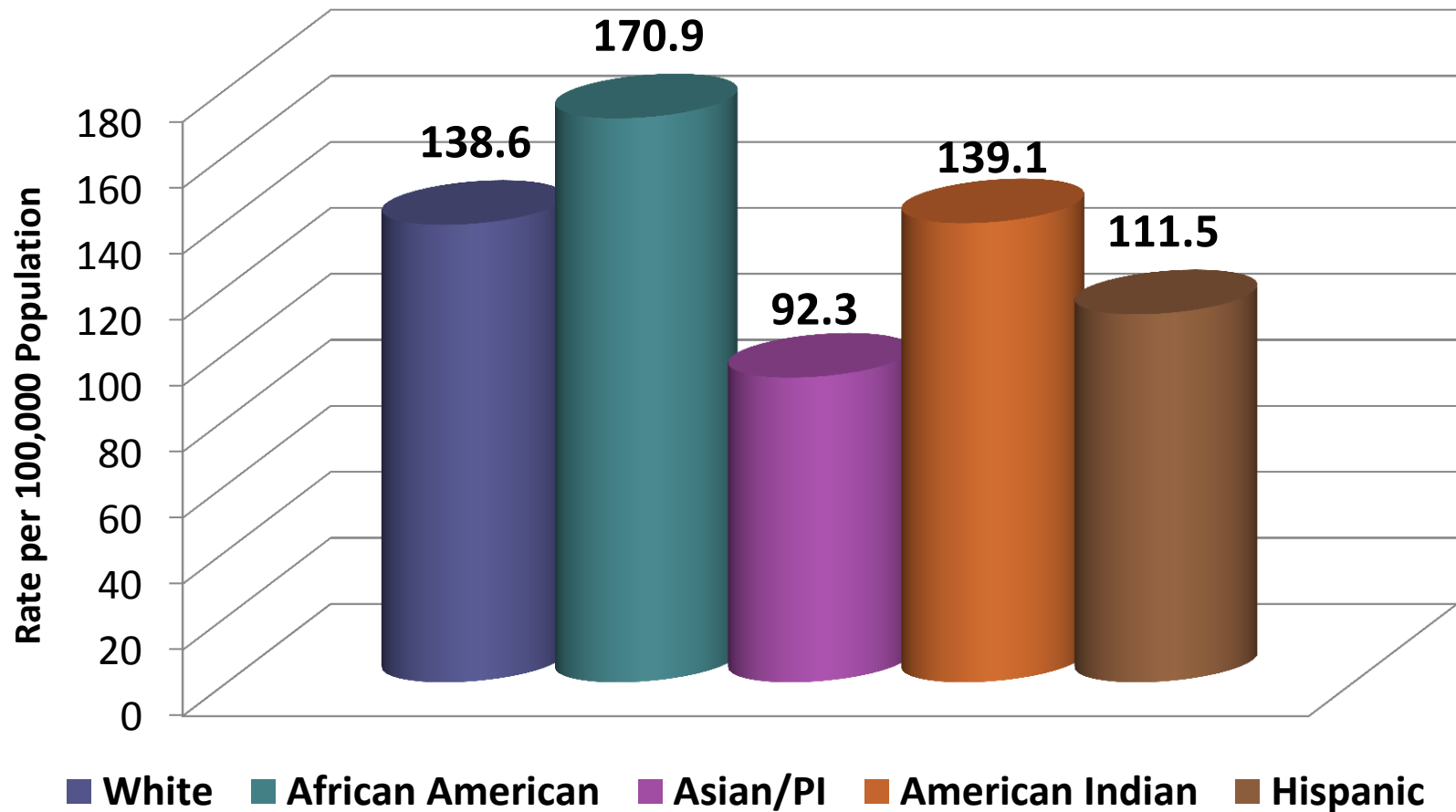
Source: BRFSS 2010

# Prevalence of Obesity by Ethnicity & Sex Maricopa County, 2010



Source: BRFSS 2010

# Heart Disease Death Rates Maricopa County, 2010

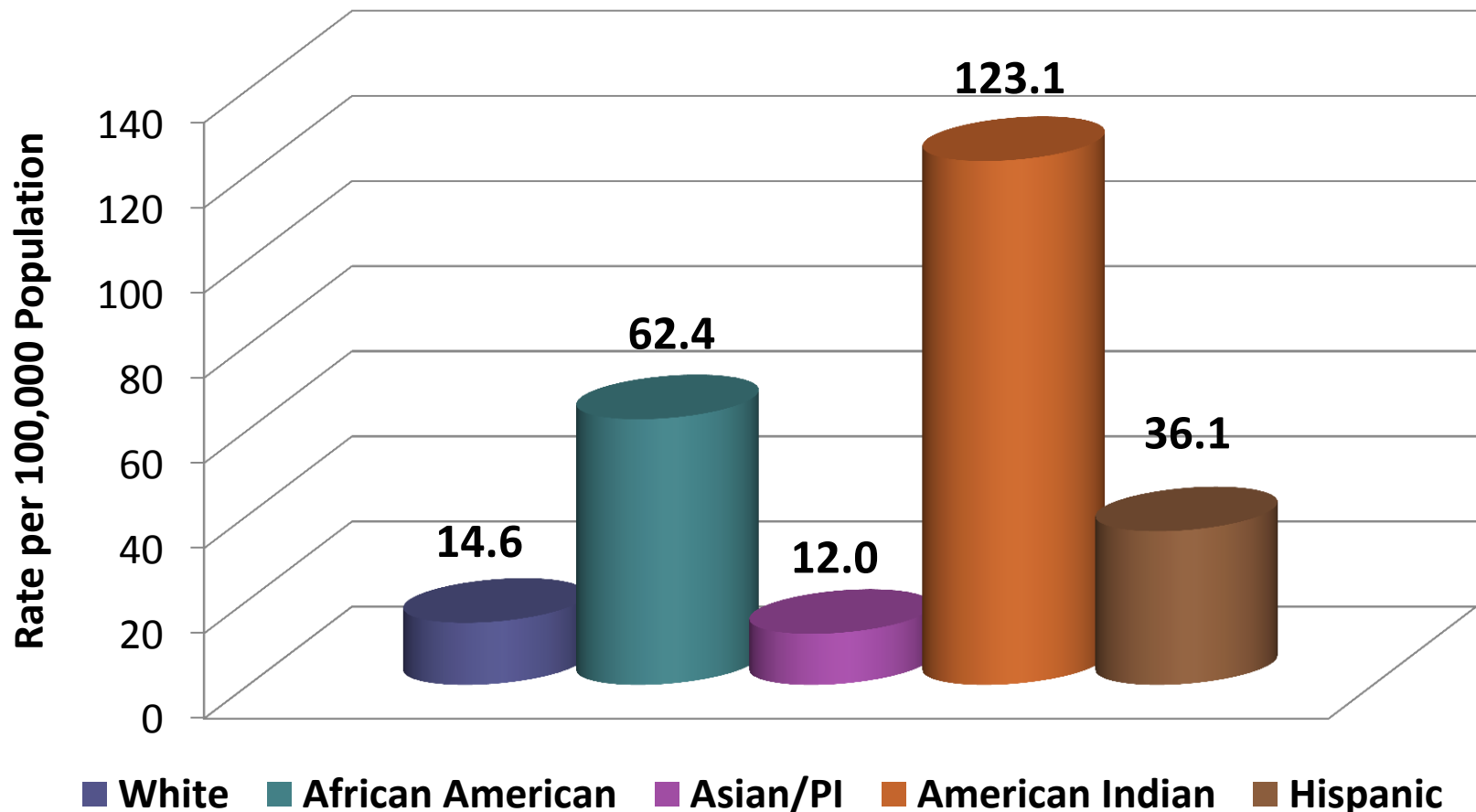


Heart disease death rates for Asians significantly lower than for Whites.

Source: Death Certificates



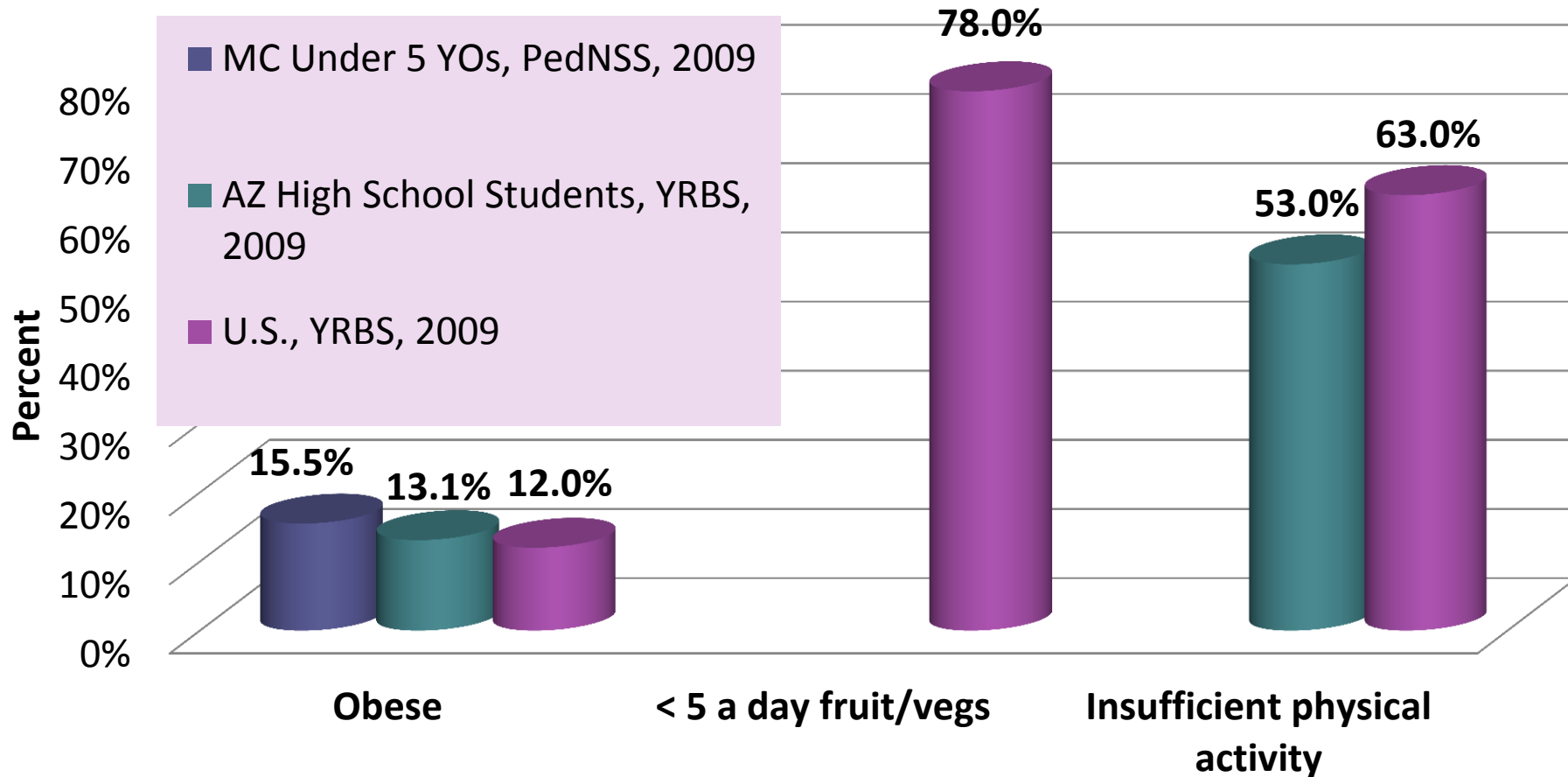
# Diabetes Death Rates Maricopa County, 2010



Hispanic, African American, American Indian all significantly higher than White.

Source: Death Certificates

# Obesity & Related Risk Factors-Children



Data not available for all categories and all age groups. All available data shown.

# Sexually Transmitted Diseases

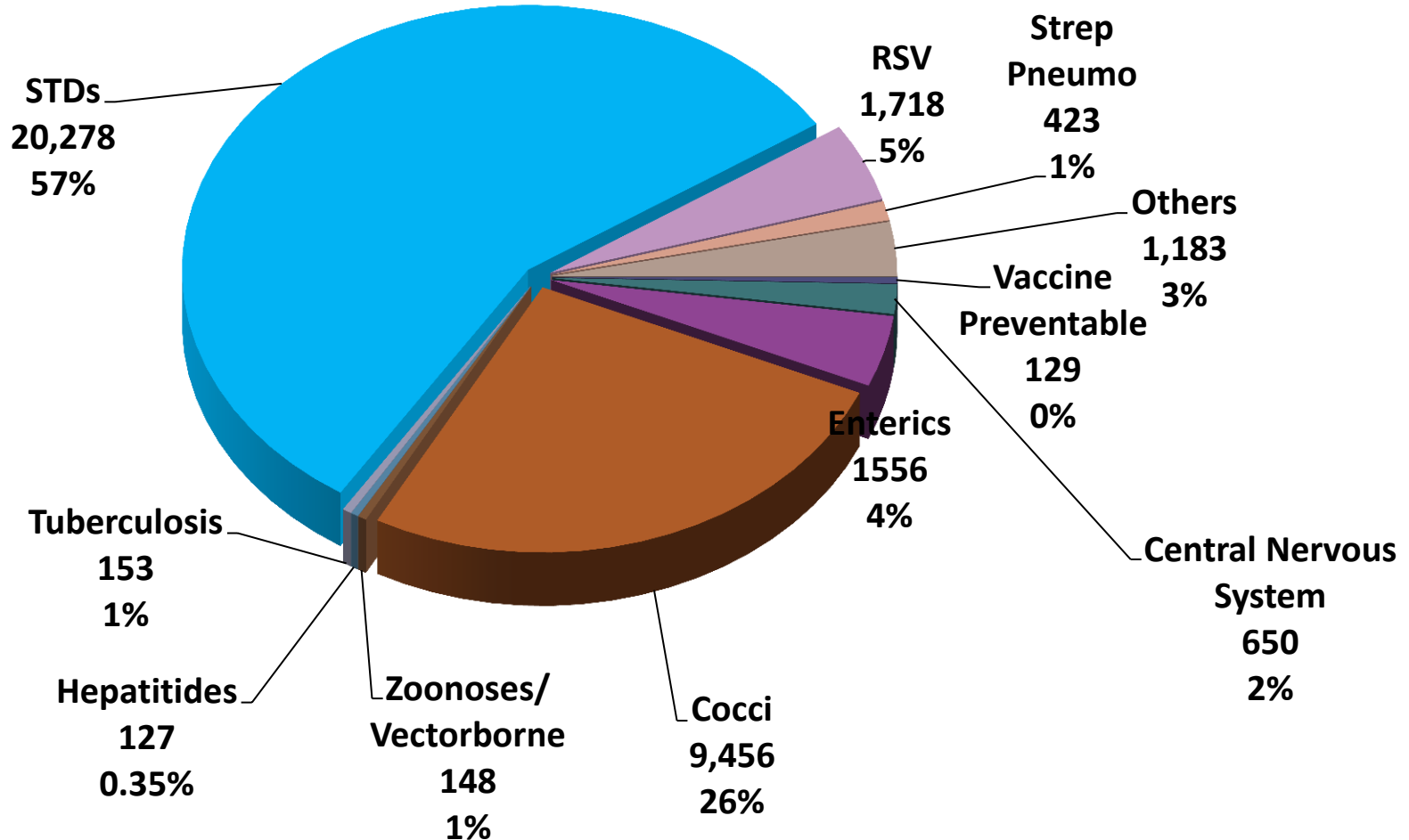
# Sexually Transmitted Diseases

- Sexually transmitted diseases made up the largest proportion of reported diseases in 2010
  - Contact tracing may contribute to volume
- Chlamydia is the most common STD
- Higher rates for African Americans and American Indians
- HIV is not going away

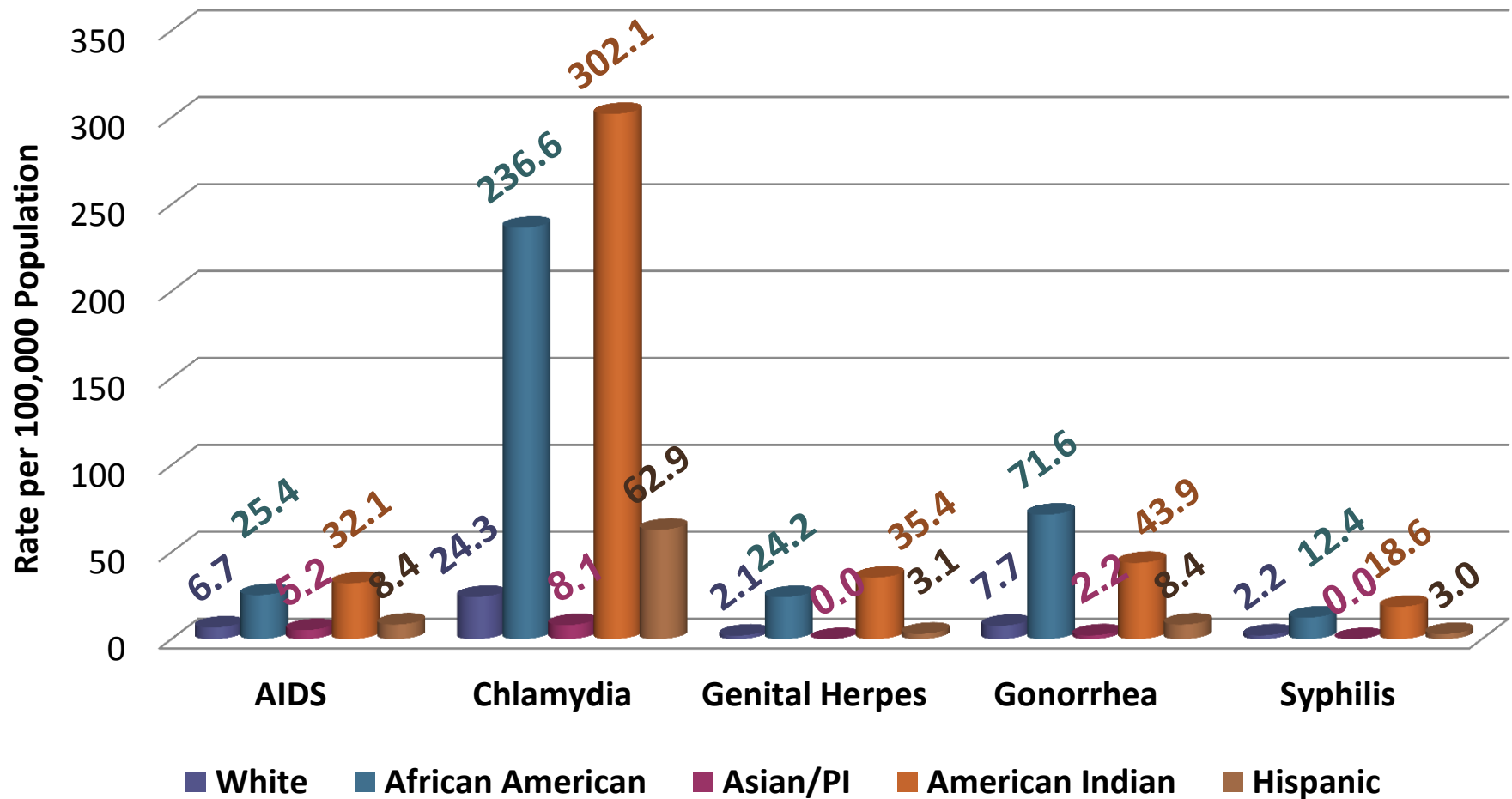
# Selected Reportable Diseases

## Maricopa County, 2010

Reports from providers and labs as a proportion of total  
ADHS Final Year End Data



## Selected STD Incidence Rates by Racial/Ethnic Group Maricopa County 2010

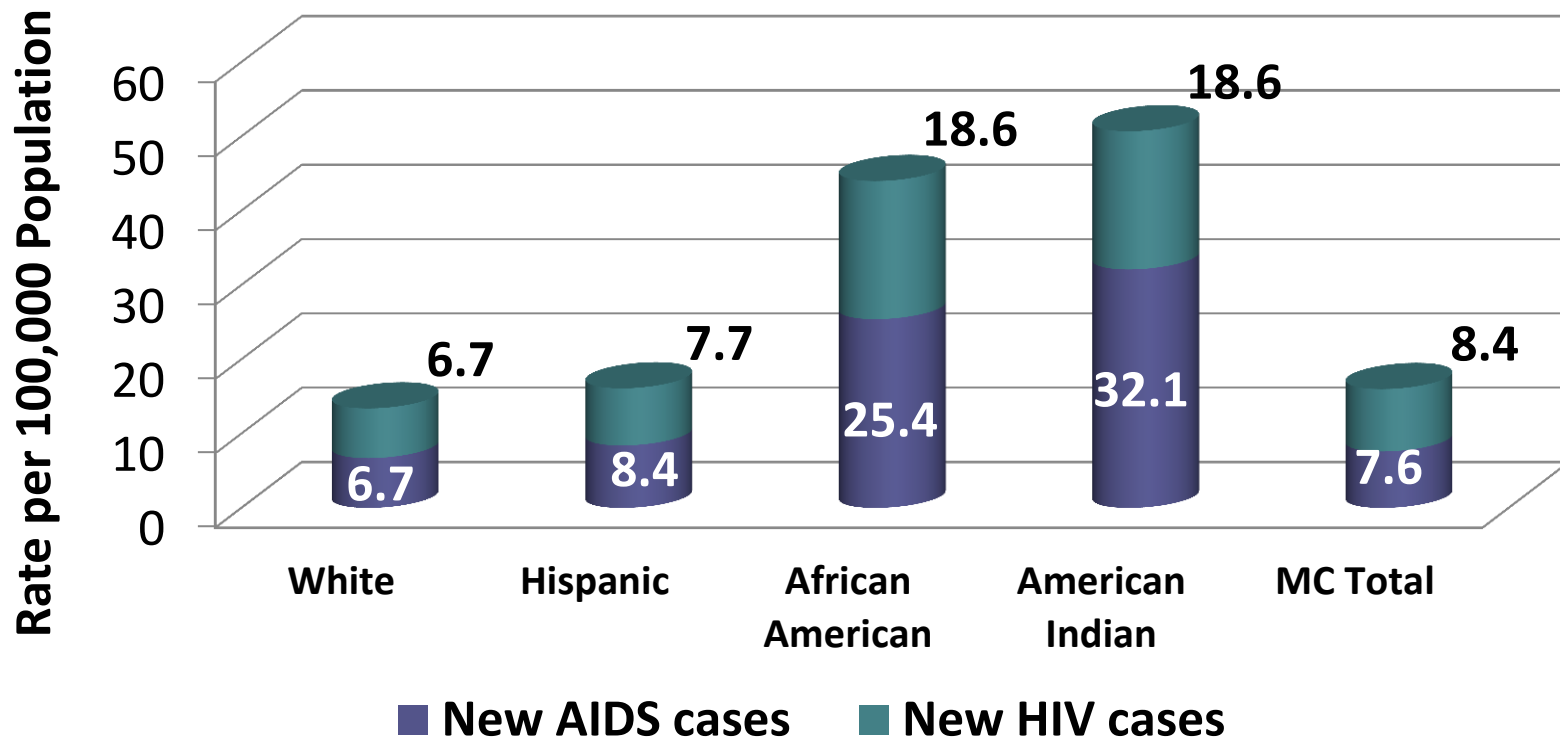


Source: ADHS FYE Communicable Disease Data

Hispanics had significantly higher rates of chlamydia compared to Whites. African Americans and American Indians had significantly higher rates for all STDs shown.

# HIV and AIDS

## Case Rates, Maricopa County, 2010

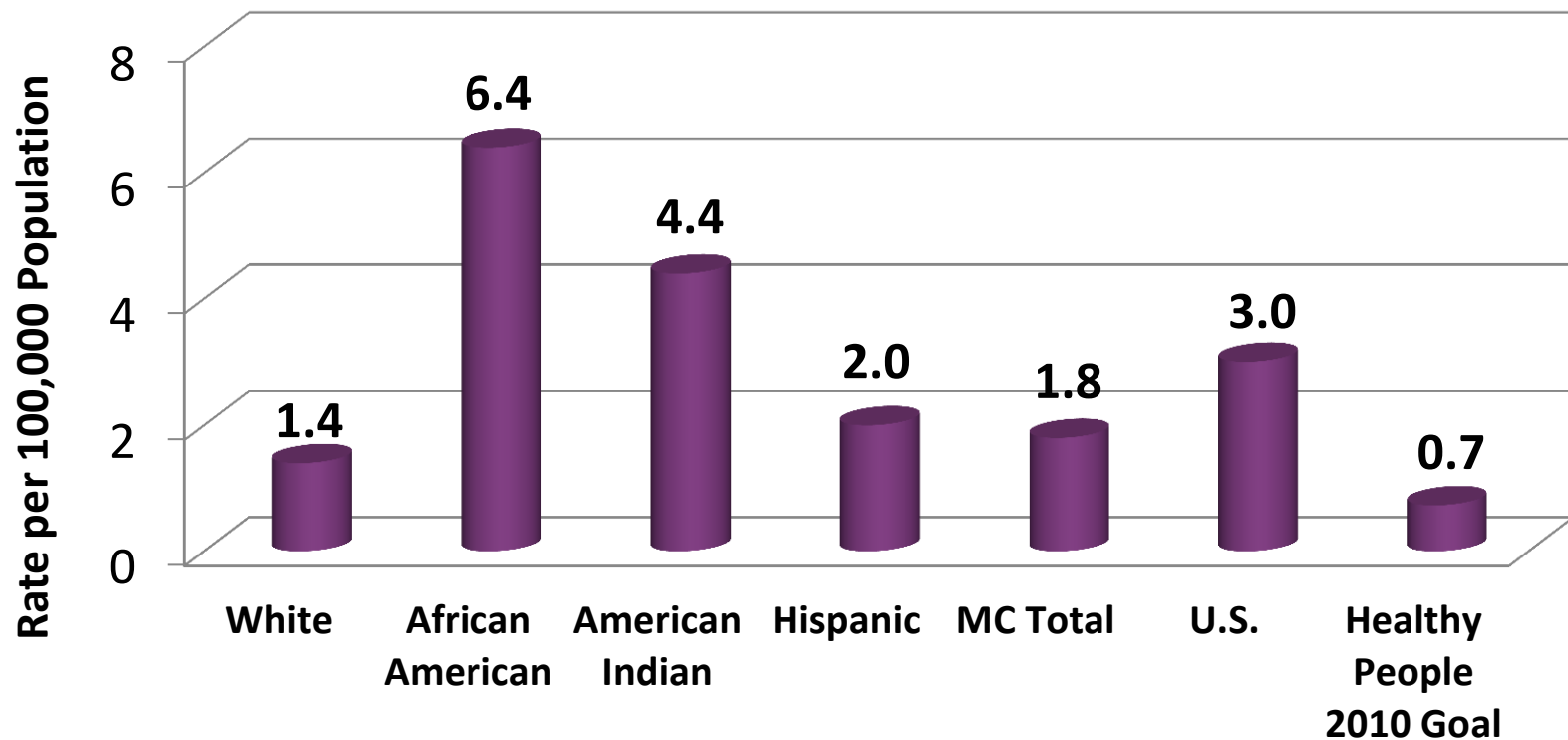


African Americans and American Indians had significantly higher rates of both new AIDS and new HIV cases compared to Whites.

Source: ADHS FYE Communicable Disease Data

# HIV and AIDS

## Death Rates, Maricopa County, 2010



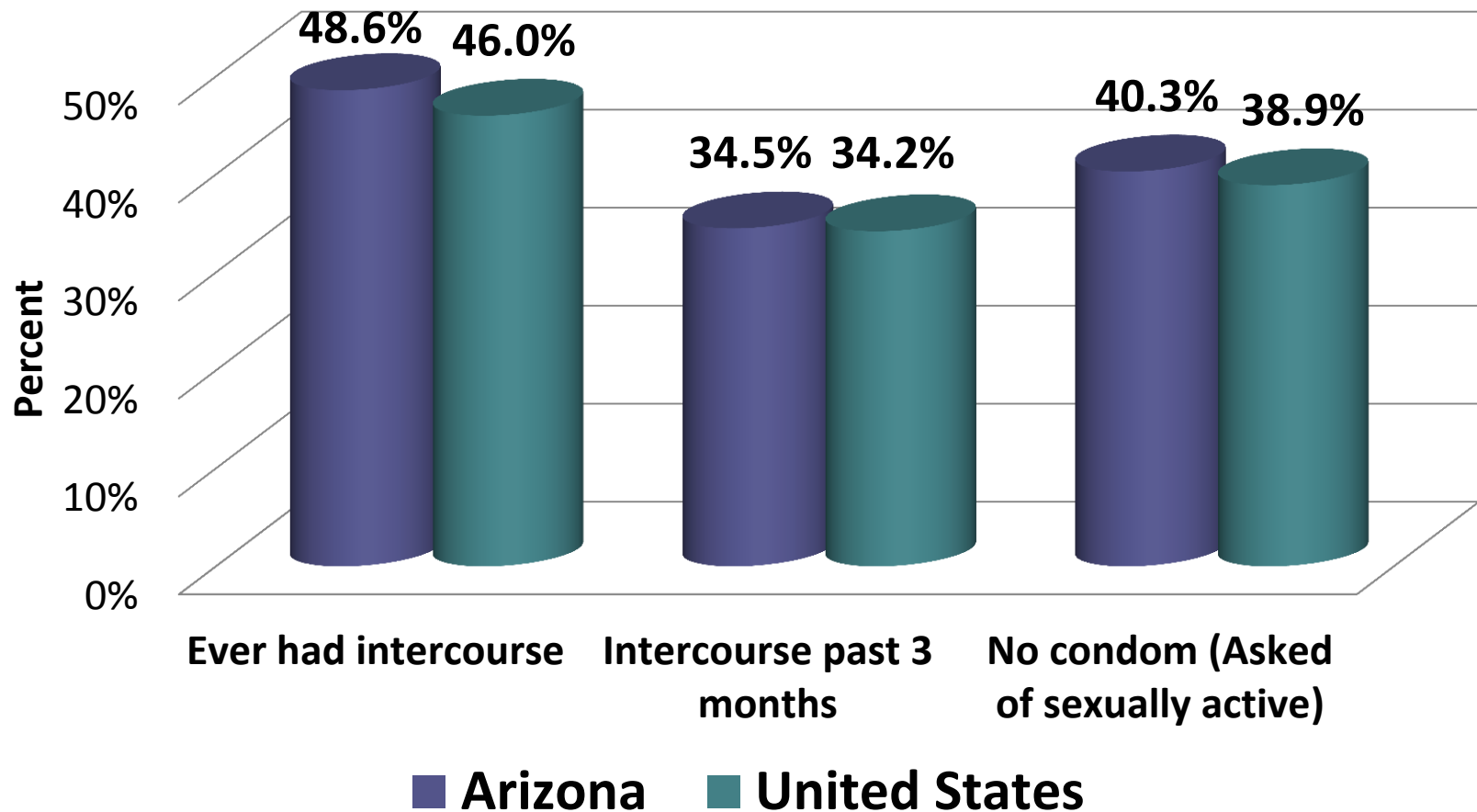
No statistically significant difference in death rates from HIV/AIDS.

Data Source: Death Certificates



# Risk Behavior Among High School Students

Youth Behavioral Risk Survey, 2009, Arizona



# Injuries

# Unintentional Injuries in Maricopa County

- Include poisonings, falls, firearms, motor vehicle collisions, heat deaths, etc.
- Comprise the largest category for emergency department visits in 2010
- 4<sup>th</sup> highest cause of death
- More likely to be cause of death for American Indians than Whites
- Numerous risk factors among adults, kids
- According to the Arizona Department of Health Services, 108 children suffered from lead poisoning between 2008 and 2010.

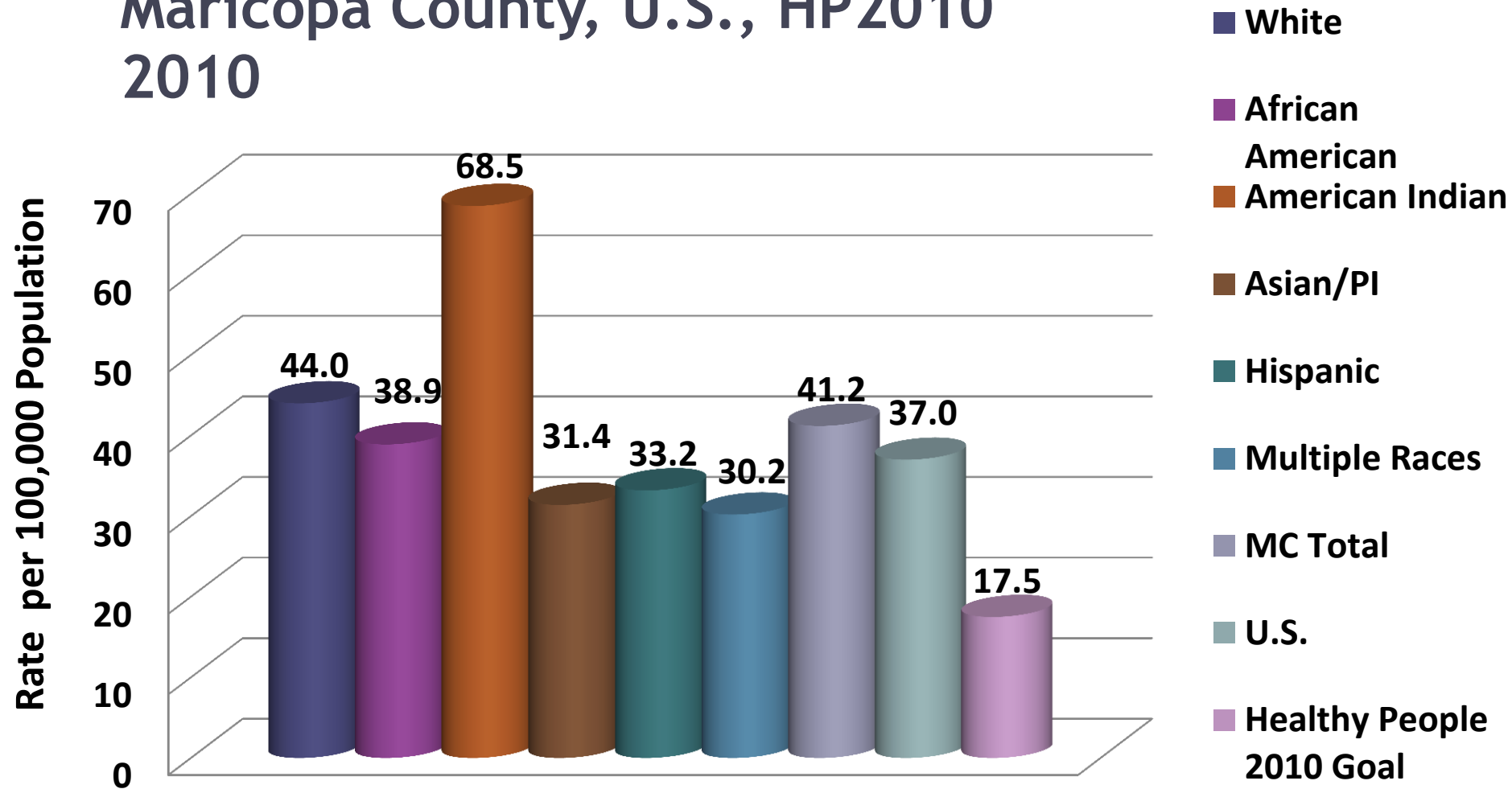
# Deaths from Unintentional Injuries

## Maricopa County 2010

Cause of Death	Total Underlying Cause of Death	Total Multiple Cause of Death
Falls	494	635
Unintentional Poisonings	462	564
Motor Vehicle Collisions	336	343

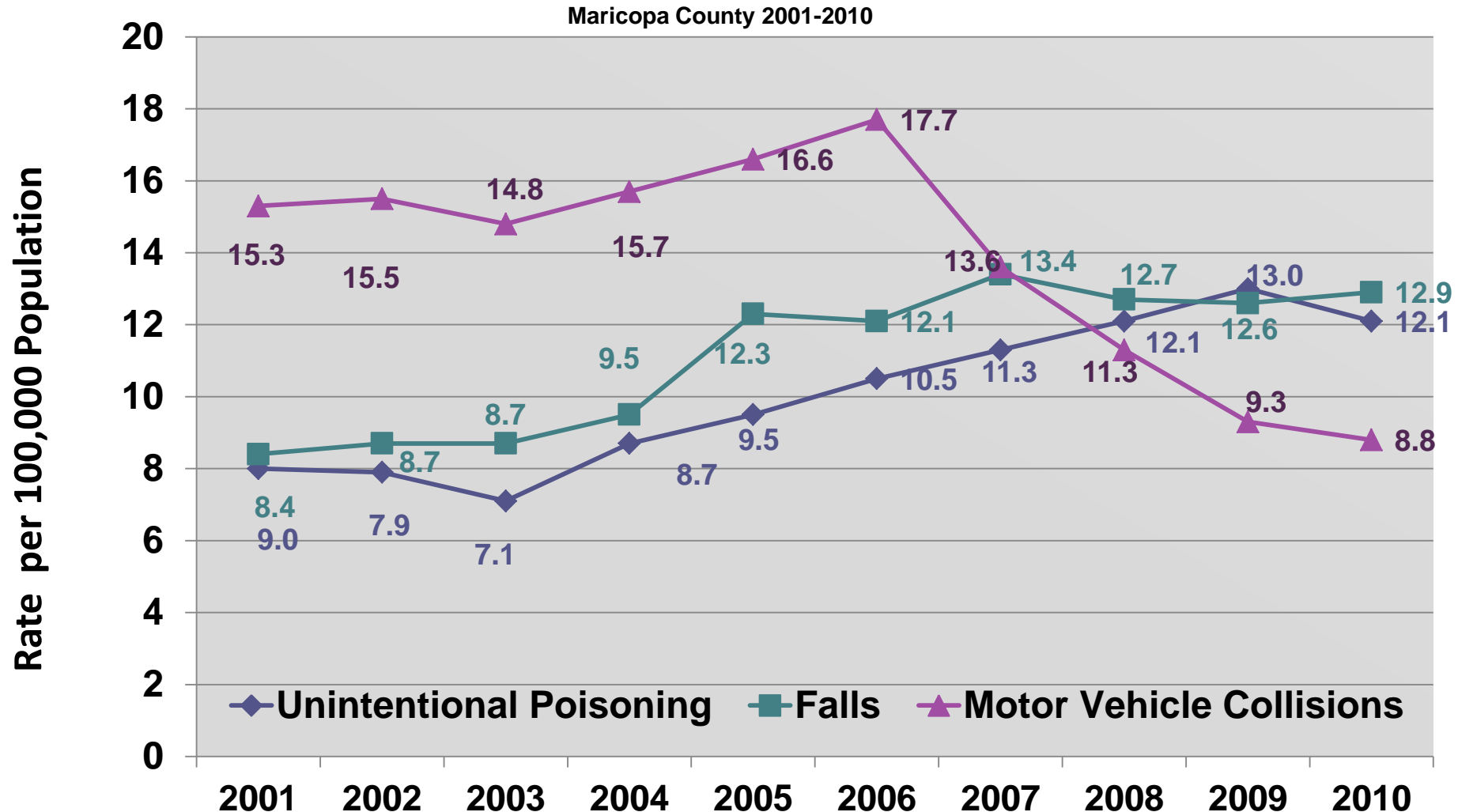
Source: Death Certificates

# Death Rates for Unintentional Injuries Maricopa County, U.S., HP2010 2010



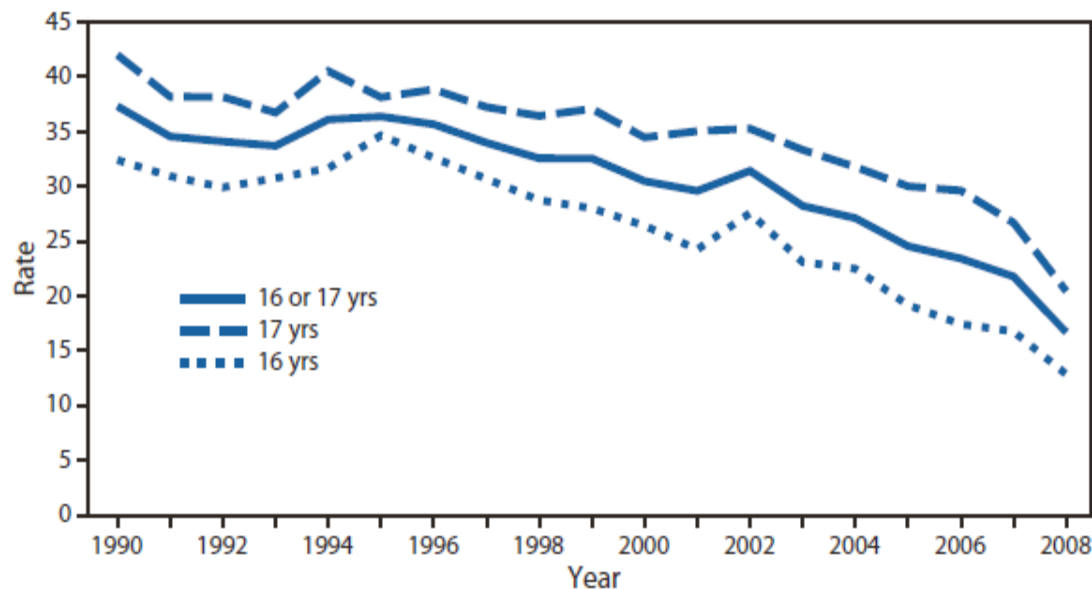
American Indians significantly higher death rate than Whites. MC Total significantly higher than HP 2010. Does not include complications from medical/surgical care. Rates for race/ethnic groups are age adjusted.

# Unintentional Injury Death Rates by Cause



# Teen Drivers

**FIGURE. Annual rate\* for drivers† aged 16 or 17 years involved in fatal crashes, by age group --- Fatality Analysis Reporting System, United States, 1990--2008**

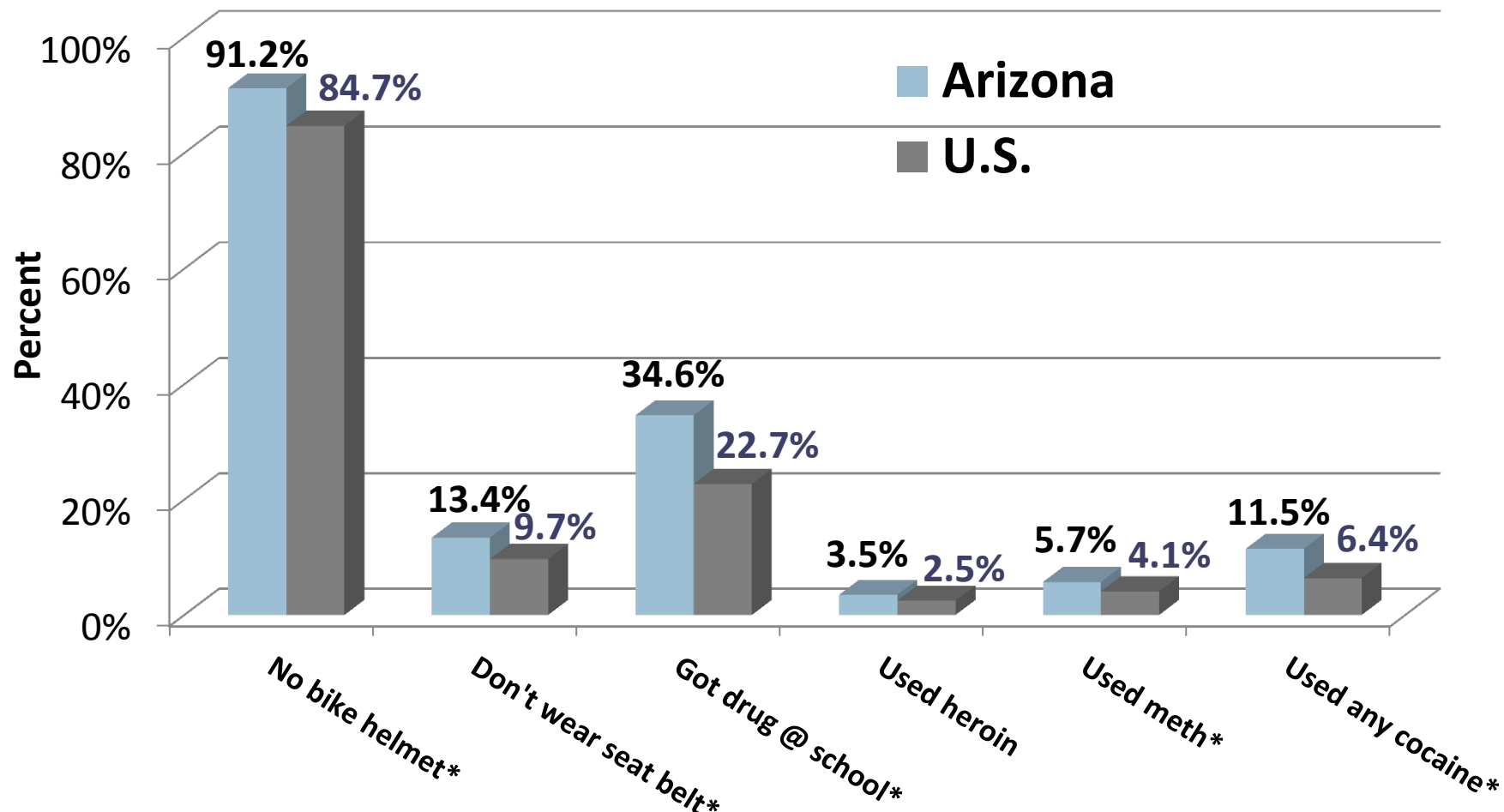


\* Per 100,000 population in age group.

† Of passenger vehicles (i.e., automobiles, sport utility vehicles, pickup trucks, and vans).

**Alternate Text:** The figure above shows the annual rate for drivers aged 16 or 17 years involved in fatal crashes, by age group in the United States from 1990-2008. Continuing a general decline that began in 1996, the population-based rate for drivers aged 16 or 17 years involved in fatal crashes decreased 38%, from 27.1 per 100,000 population in 2004 to 16.7 in 2008.

# Risk Behaviors Among High School Students in Arizona & the U.S., 2009

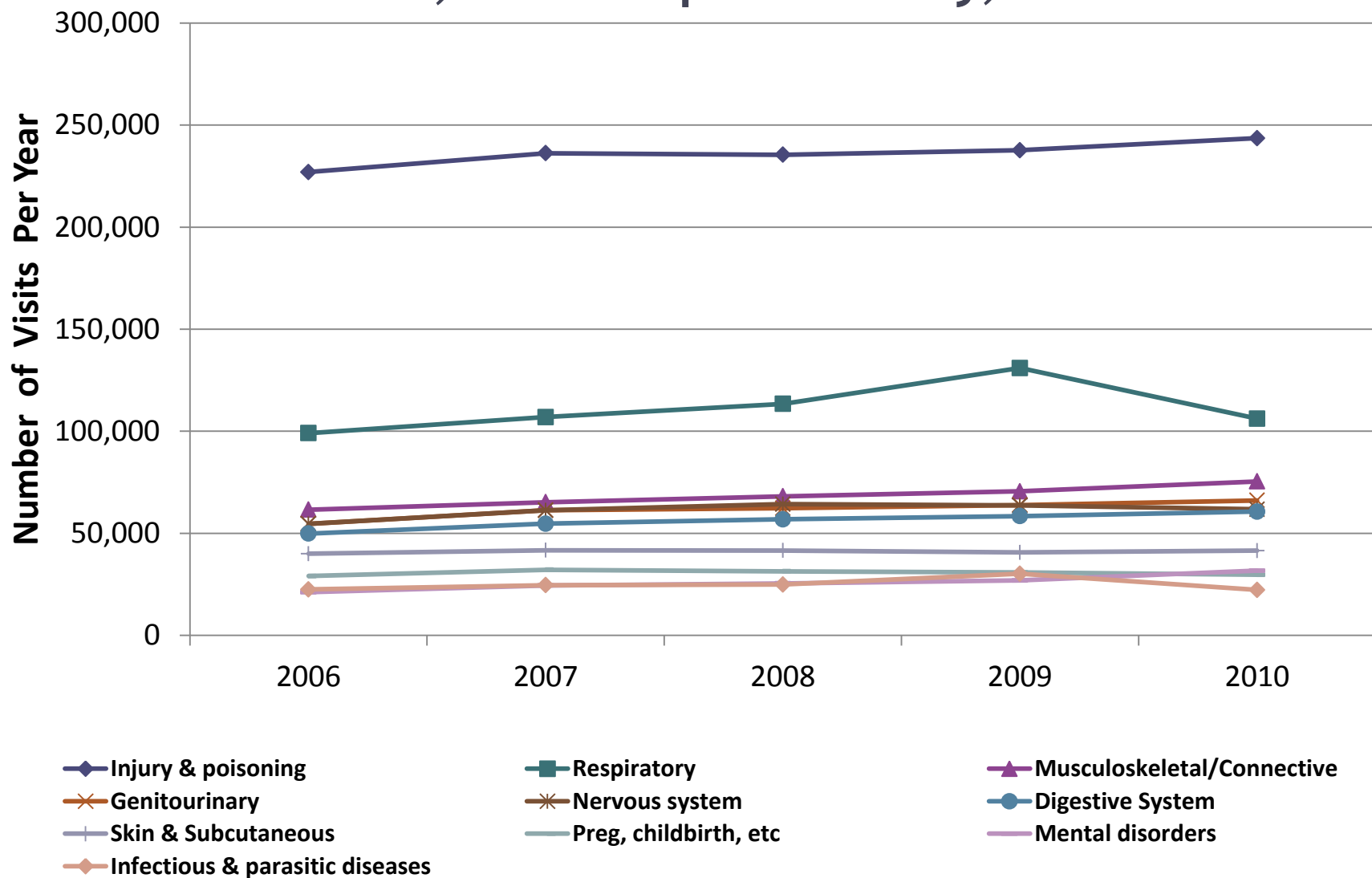


\* Significantly higher than the U.S. ( $p < .05$ )

Source: YRBS (CDC) 2009



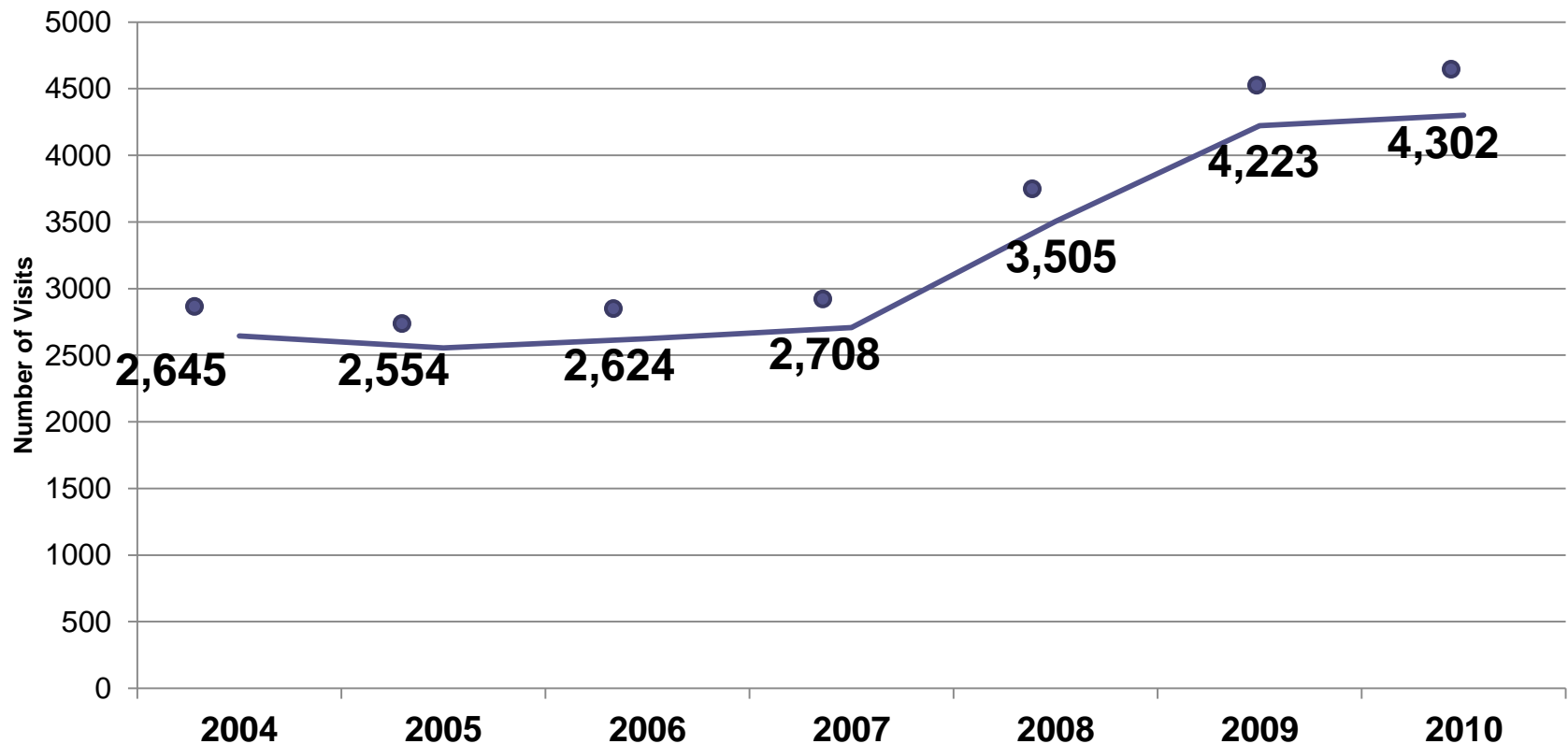
# Number of Emergency Department visits for selected causes, Maricopa County, 2006-2010



Source: Hospital Discharge Data

# Attempted Suicides Resulting in Emergency Department Visits

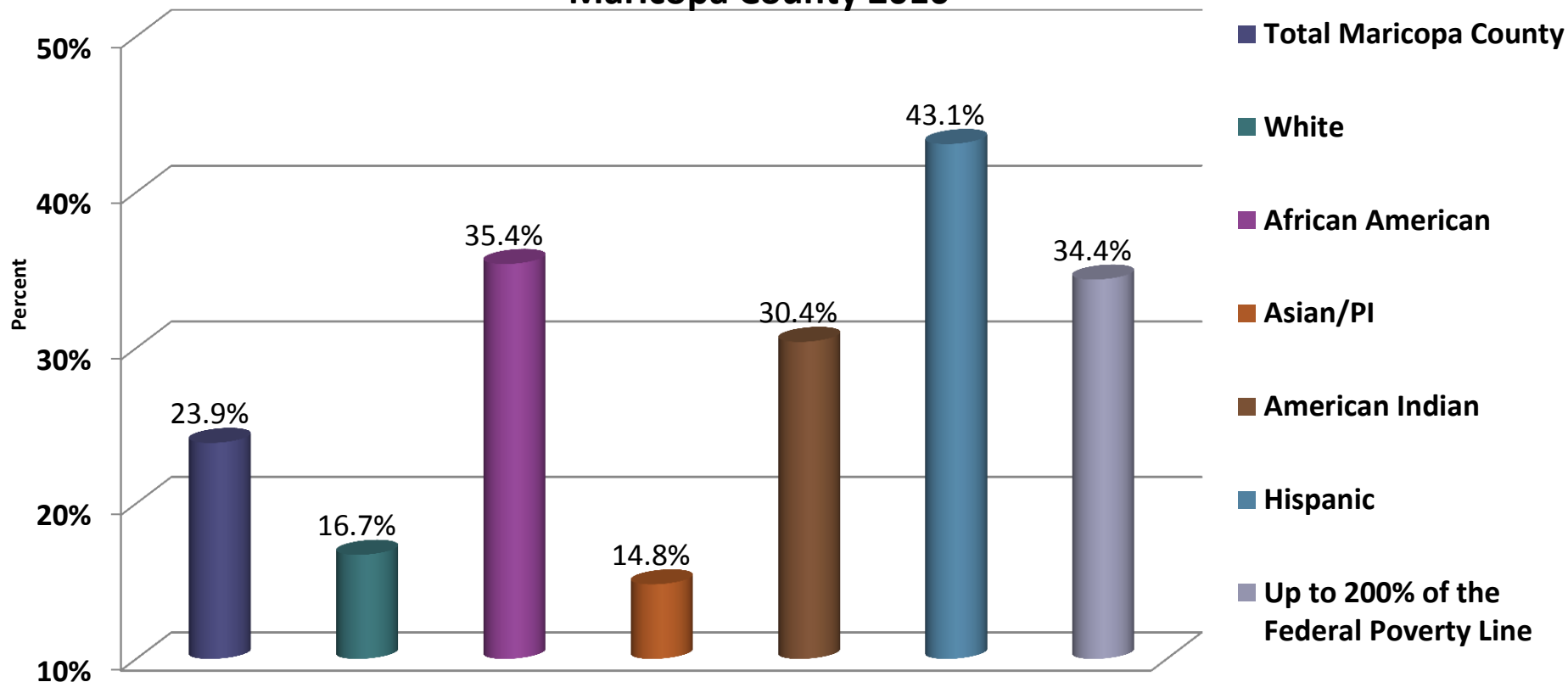
Number of ED Visits by Year  
Maricopa County, 2004-2010



# Access to Health Care

# During the last 12 months, have you seen any medical doctor?

Percent Who Answered "No"  
Maricopa County 2010

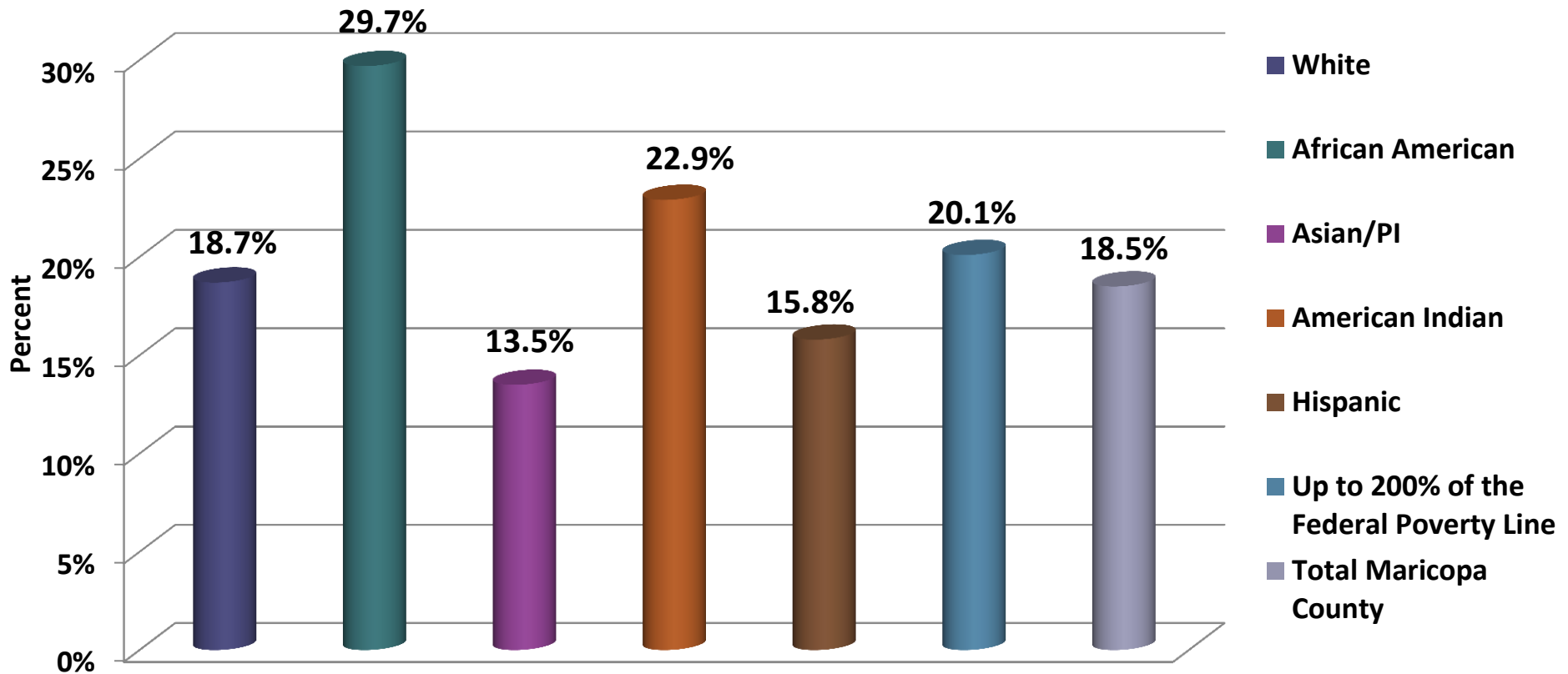


Source: Arizona Health Survey 2010

*These data were presented in March 2012 to the data expert group. The sample sizes are small so caution should be used when drawing conclusions based on these data.*

# During the last 12 months, did you delay or not get any medical care you felt you needed?

Percentage of respondents who answered "Yes"

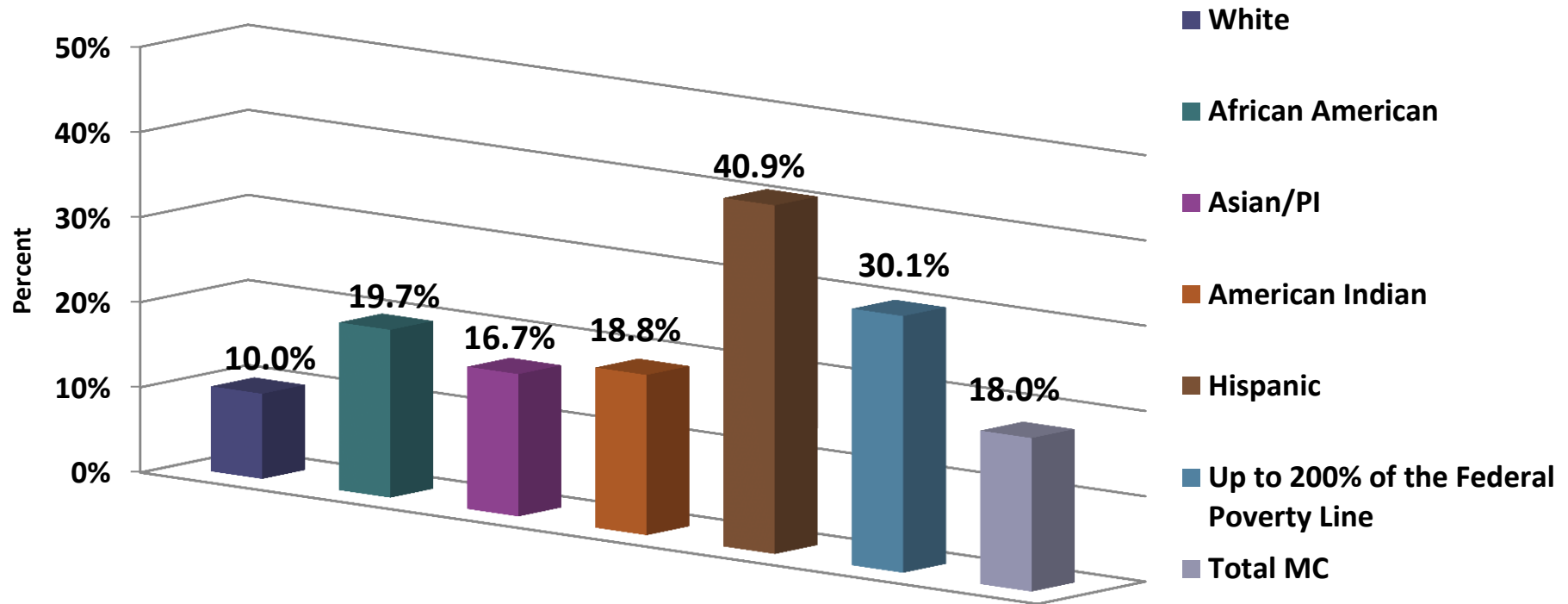


Source: Arizona Health Survey 2010

*These data were presented in March 2012 to the data expert group. The sample sizes are small so caution should be used when drawing conclusions based on these data.*

# Are you currently covered by health insurance [of any kind]?

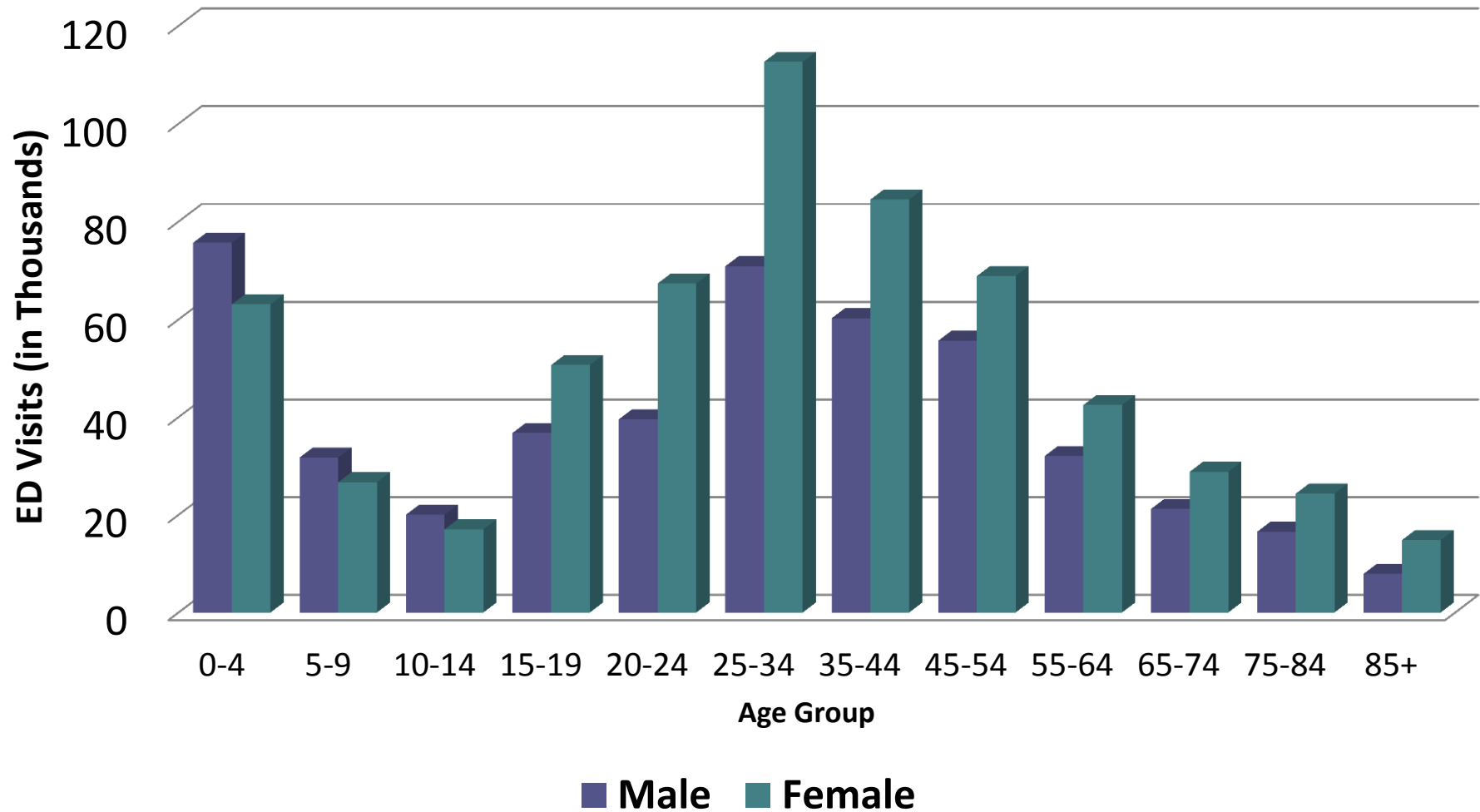
Percent of Respondents Who Answered “No”  
Maricopa County 2010



Source: Arizona Health Survey 2010

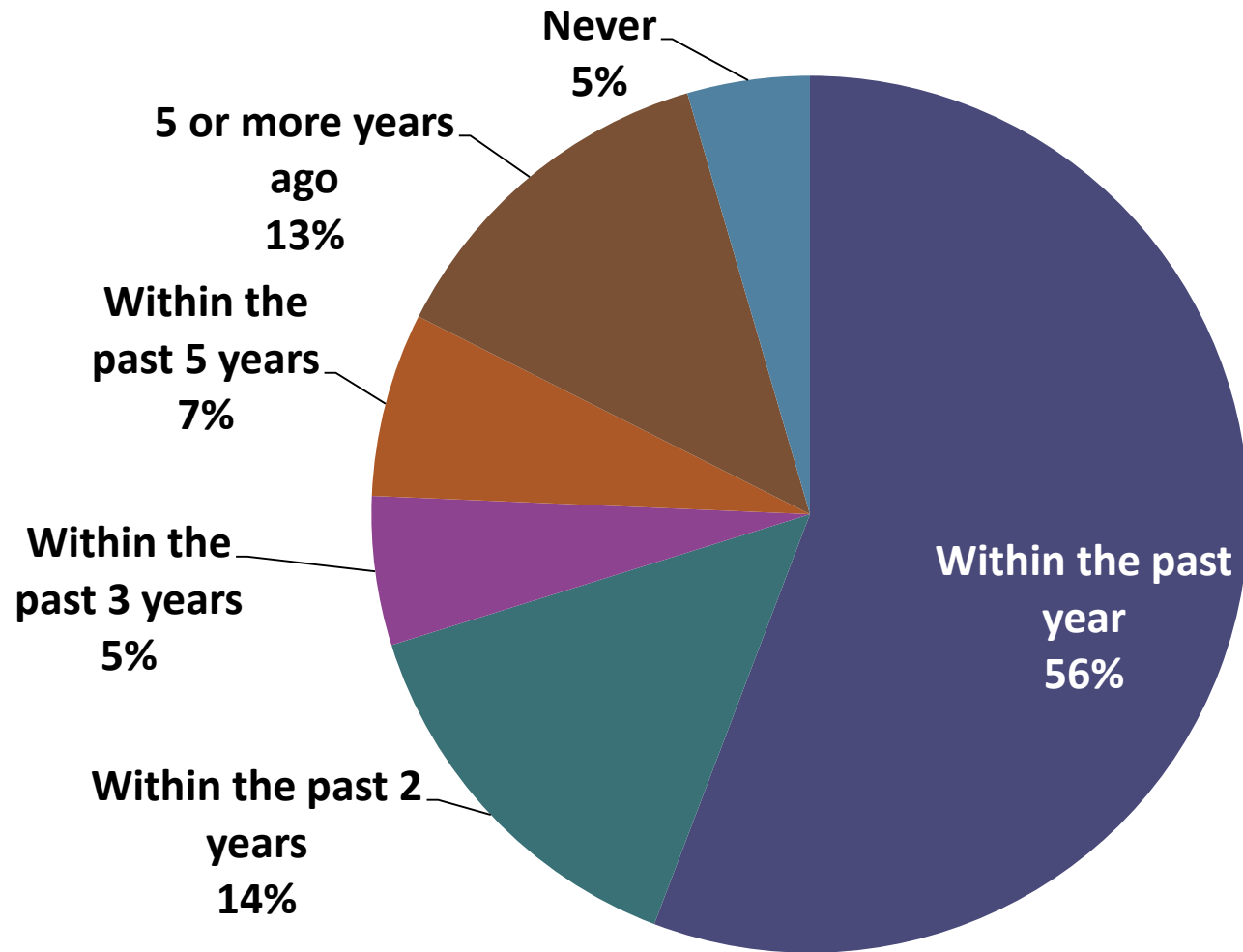
*These data were presented in March 2012 to the data expert group. The sample sizes are small so caution should be used when drawing conclusions based on these data.*

# Number of Emergency Department Visits by Age and Sex, Maricopa County, 2010



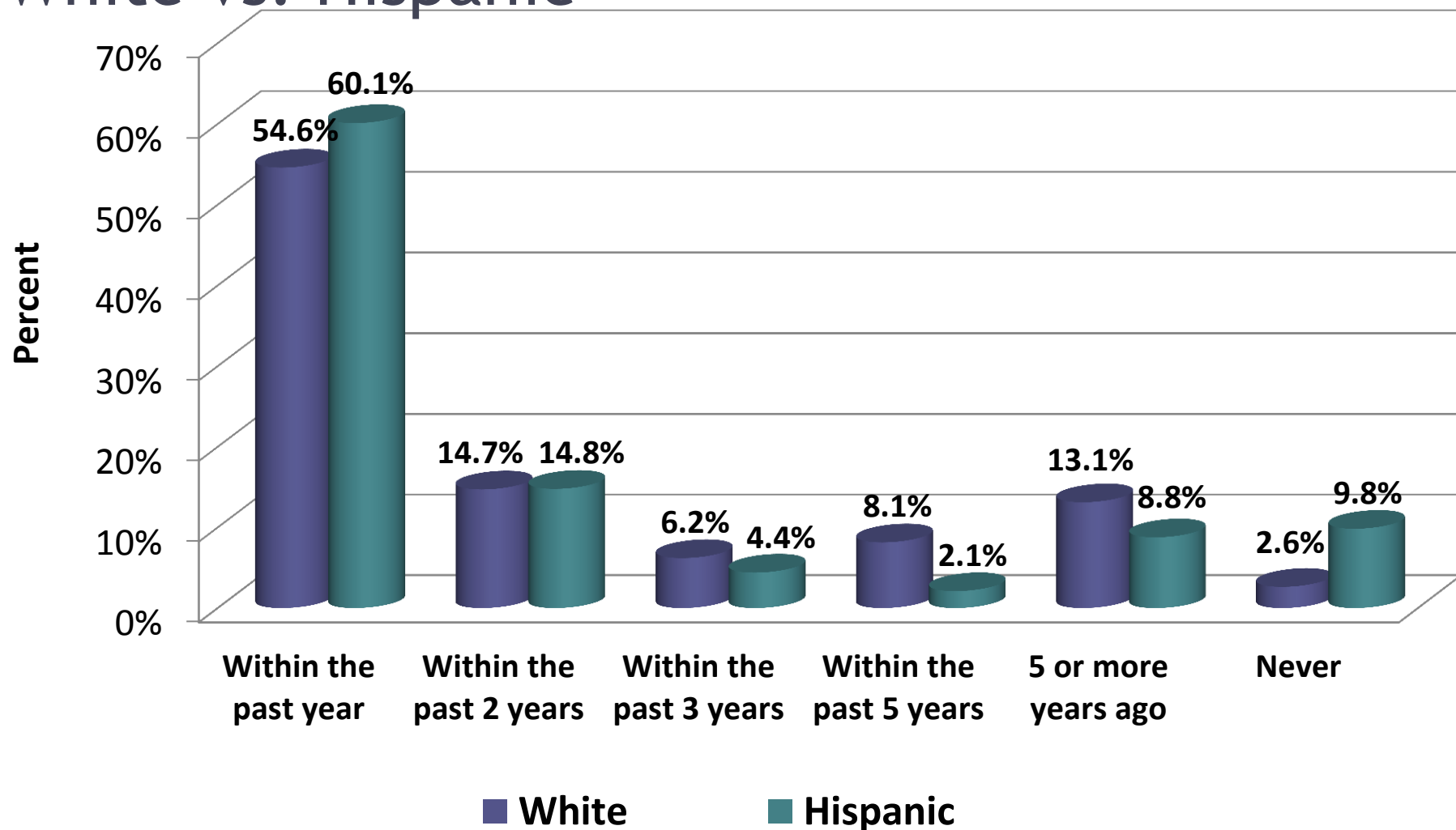
Source: Hospital Discharge Data

# Time of Last PAP Test, Women Ages 18+ Maricopa County, 2010





# Time of Last PAP Test, Women Ages 18+ White vs. Hispanic



# Affordable Care Act

- Changes may occur in access to health care once the Affordable Care Act is fully implemented

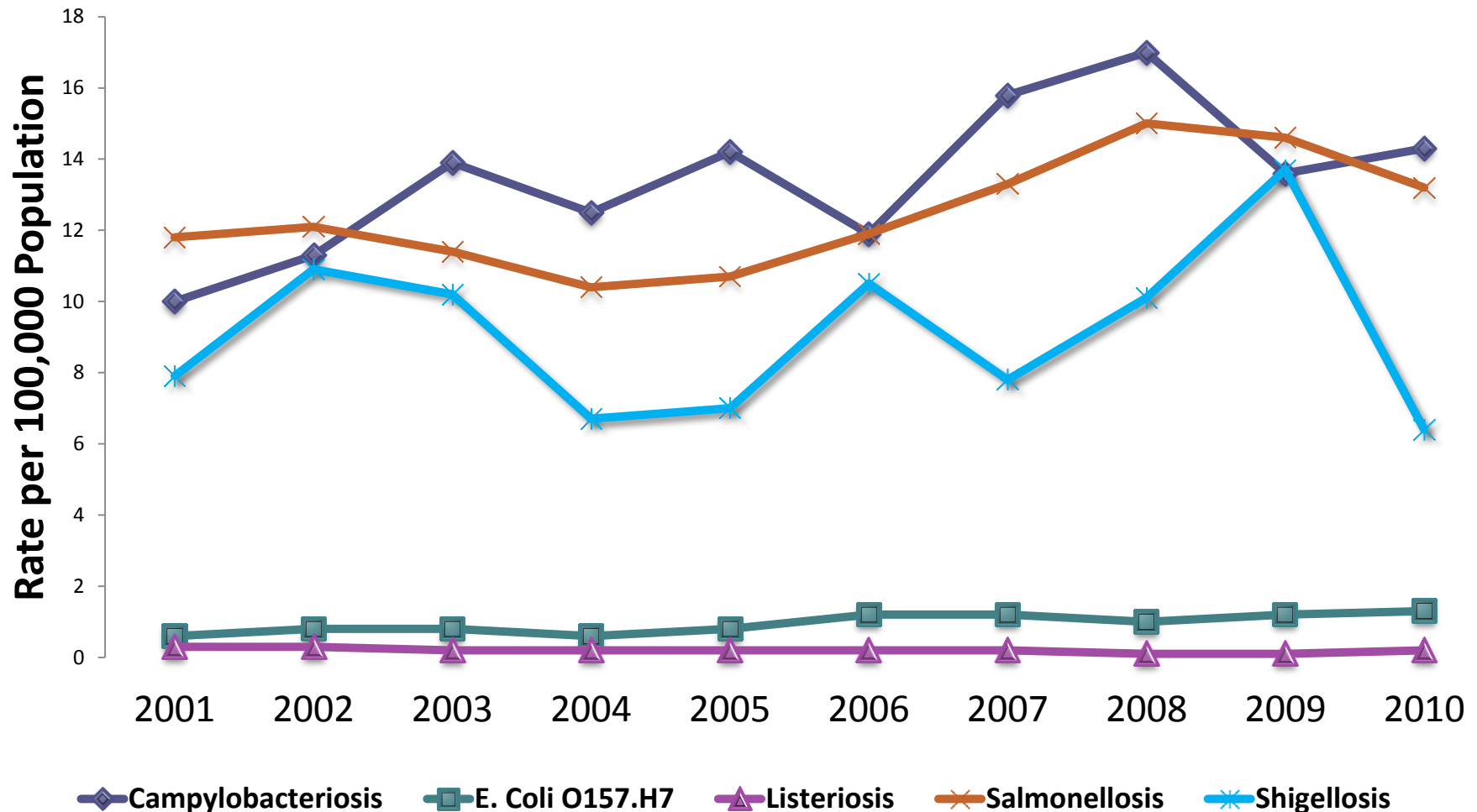
# Foodborne Illness and Food Safety

# Food/Waterborne Illnesses

- Over 1,500 cases of reportable food/waterborne illnesses
- Does not include norovirus (AKA “stomach flu”)
  - Extrapolating from CDC estimates for U.S., there may be as many as 66,908 norovirus cases each year in Maricopa County
- Disproportionately affects young children
- 86 foodborne/waterborne disease outbreaks were investigated in MC in 2010
  - Most are norovirus

# Selected Enteric Cases

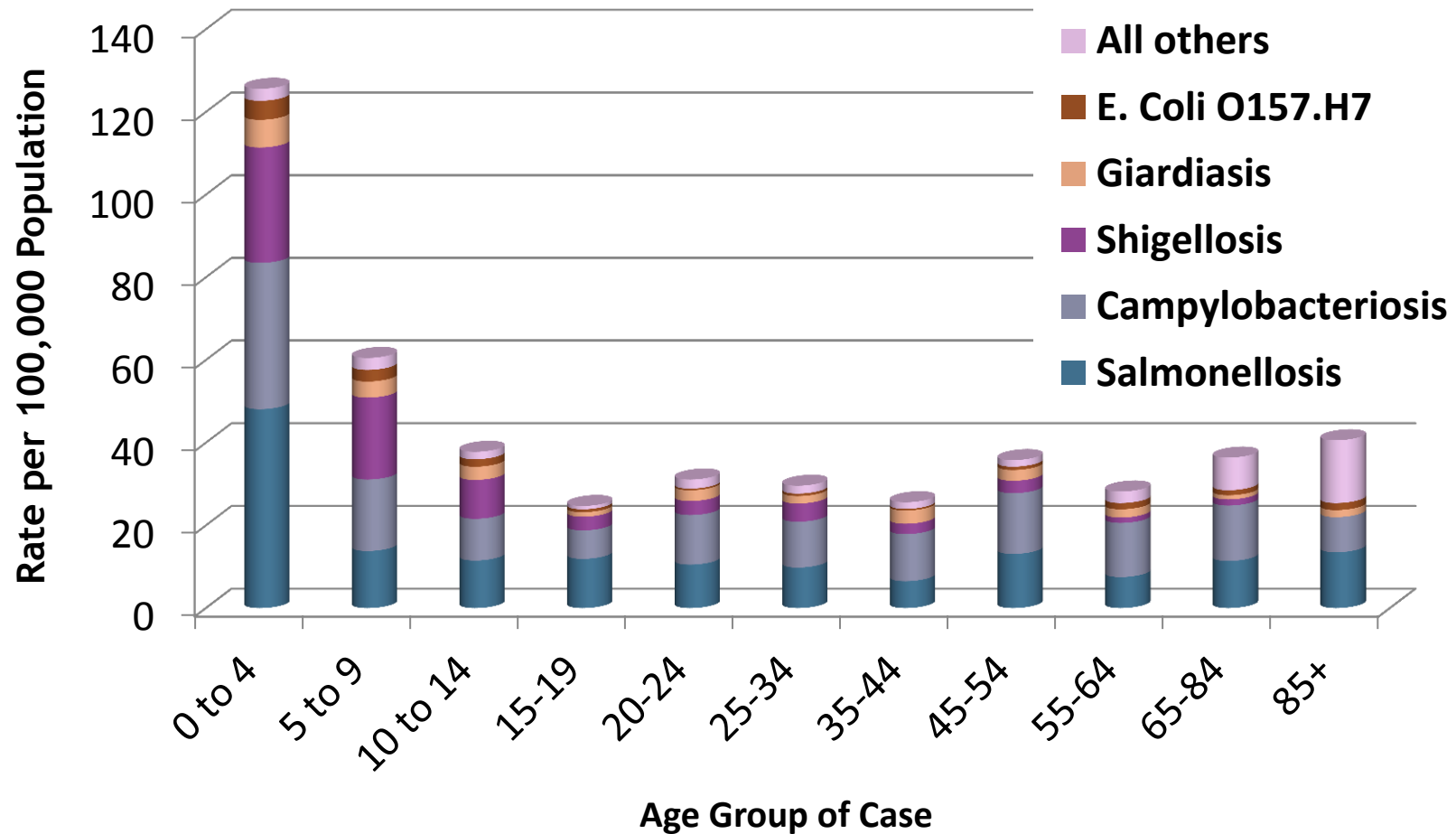
## Maricopa County, 2001-2010



Source: Hospital Discharge Data

# Enterics by Age Category

## Disease reports, Maricopa County, 2010



Source: Hospital Discharge Data

# Respiratory Illnesses

Pneumonia and Influenza

Air Quality

Chronic Obstructive Pulmonary  
Disease

Flu Vaccinations

Asthma

Coccidioidomycosis  
("Valley Fever")

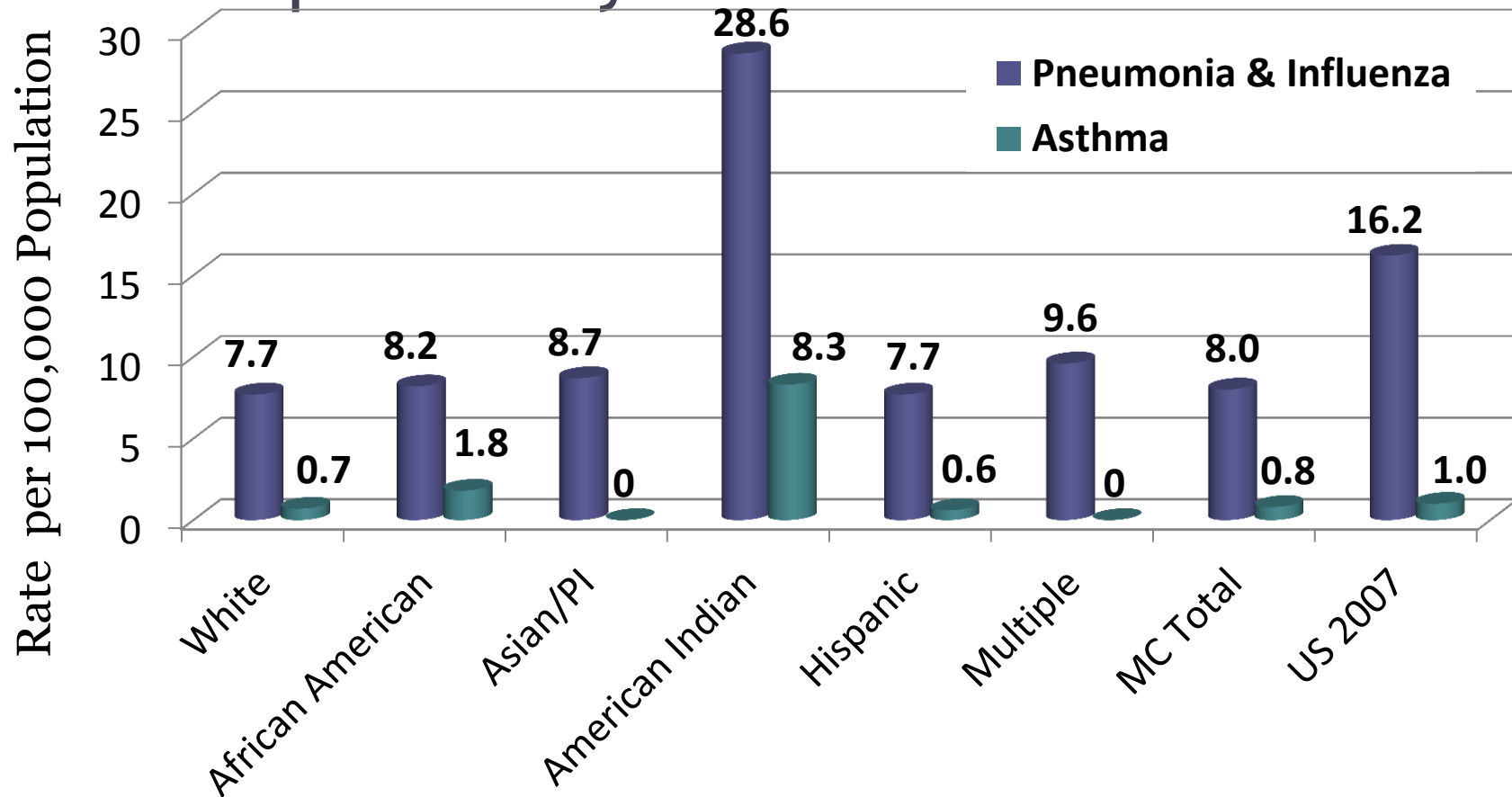
# Respiratory Illnesses

- 5<sup>th</sup> (chronic lower respiratory) and 10<sup>th</sup> (pneumonia and influenza) leading causes of death
- 1 in 8 have been told they have asthma by a provider
- 1 in 7 are current smokers
- Fewer than half of Maricopa County residents got a flu shot in 2009, the year there was an influenza pandemic



# Death Rates - Respiratory Disease

## Maricopa County 2010



American Indians had significantly higher rates of death from asthma, pneumonia, and influenza compared to Whites.

Source: Death Certificates

# Maricopa County Influenza Vaccination Coverage, 2010-2011 Season

Age Group	Vaccine Coverage (Percent Vaccinated)
6 Months - 4 Years	59.2 ± 15.2
5-17 Years	44.0 ± 10
18-49 Years	29.9 ± 5.4
50-64 Years	39.4 ± 5.8
65+ Years	68.7 ± 6.9
Total Adults (18 Years or Older)	38.0 ± 3.8

# Asthma

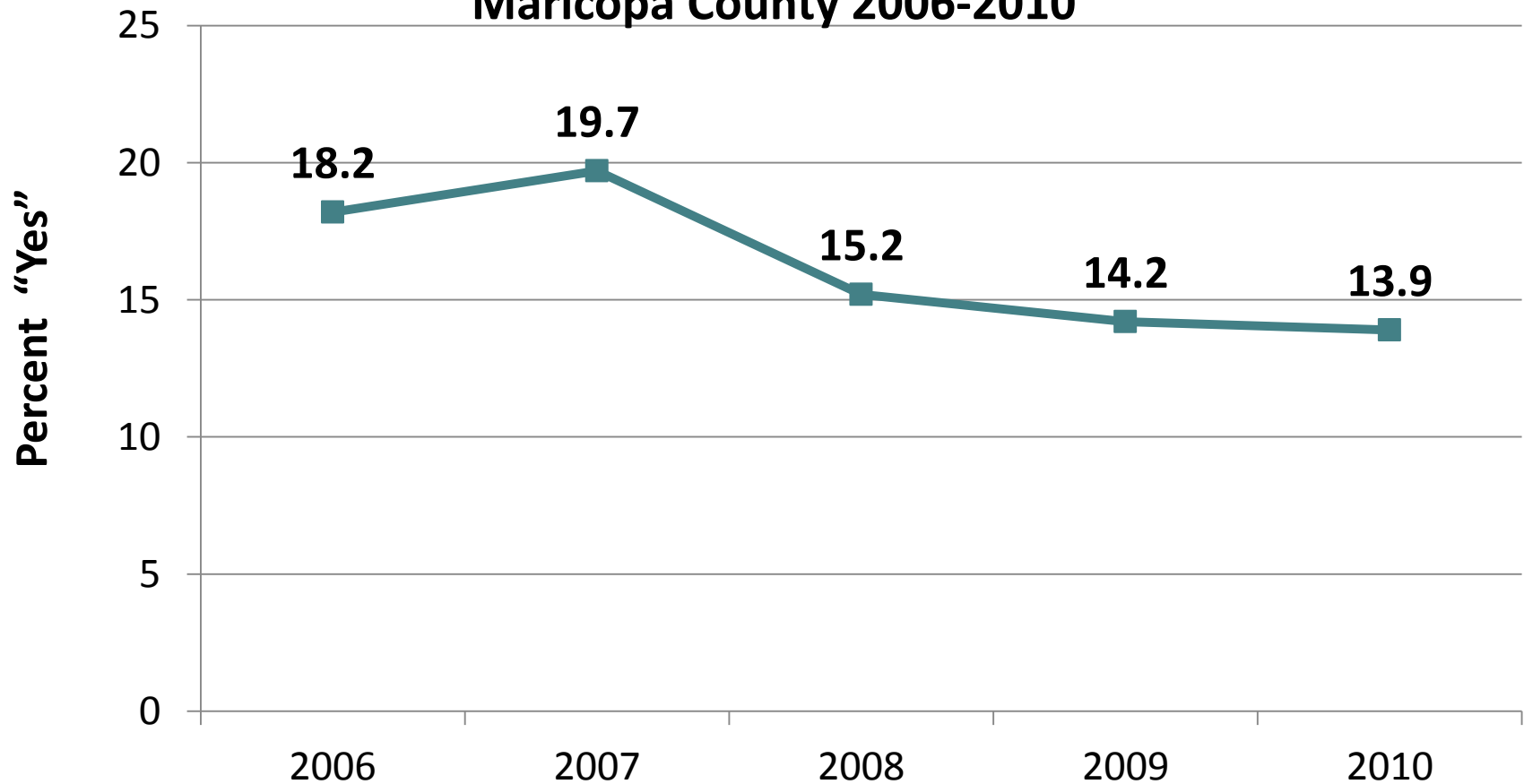
	White (% Yes)	Hispanic (% Yes)	Total (% Yes)
<b>Have you ever been told by a doctor, nurse, or other health professional that you had asthma?</b>	<b>15.5</b>	<b>9.7</b>	<b>13.8</b>
<b>Do you still have asthma?</b>	<b>69.4</b>	<b>79.6</b>	<b>69.6</b>

# Coccidioidomycosis (AKA “Valley Fever”)

- 2<sup>nd</sup> highest number of cases among reportable diseases
- From a clinical perspective, difficult to distinguish from community acquired pneumonia
- Very important in the Southwest and California
- Disproportionately high rate among African Americans

# Risk Factor: Smoking

**Current Cigarette Smoking  
Maricopa County 2006-2010**

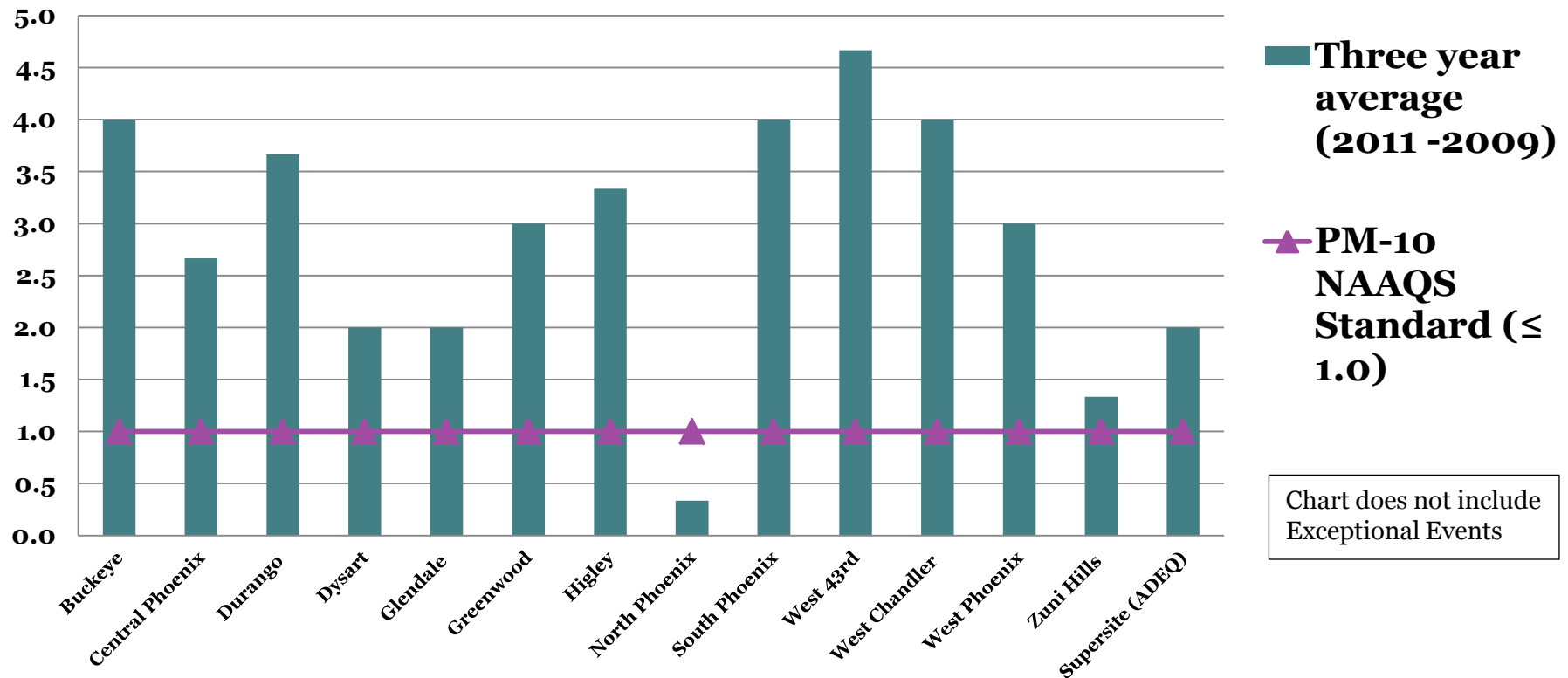


# Maricopa County Air Quality Monitoring

- “Particulate Matter” is pollution made up of acids, organic chemicals, metals, soil, or dust
- The Environmental Protection Agency (EPA) is concerned with particles 10 micrometers or smaller because they pass through the nose and lungs (sized between 2.5 and 10 micrometers)
- Fine particles, 2.5 micrometers and smaller, come from smoke and haze, or gases emitted from power plants, industry, and automobiles

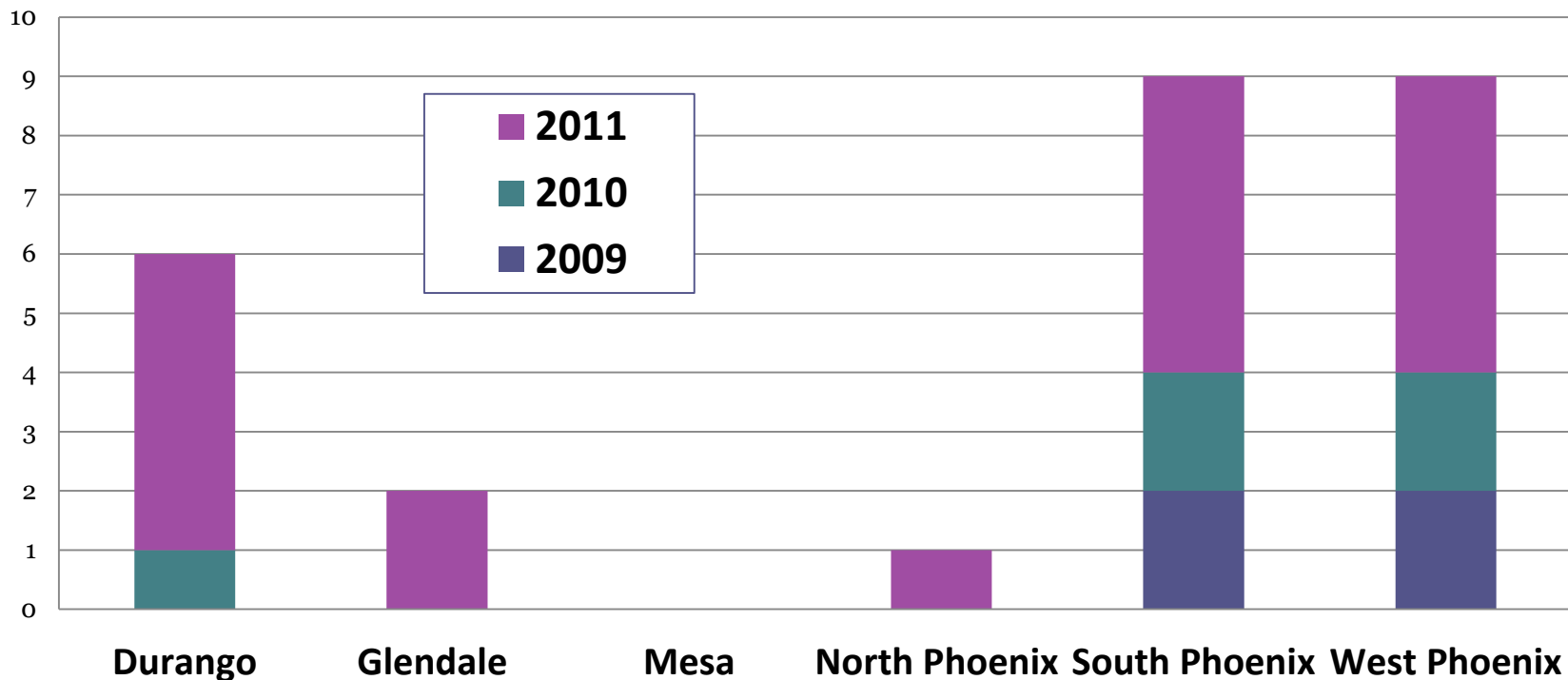
# Sites that Violated the Particulate Matter-10 National Ambient Air Quality Standards for 2011

PM-10 NAAQS = (3-yr. Avg.  $\leq 1.0$ )



# Particulate Matter Exceeding 2.5 micrometers by Site 2009-2011

Compliance Monitors as of 12/31/11





# Vectorborne/Zoonotic Diseases

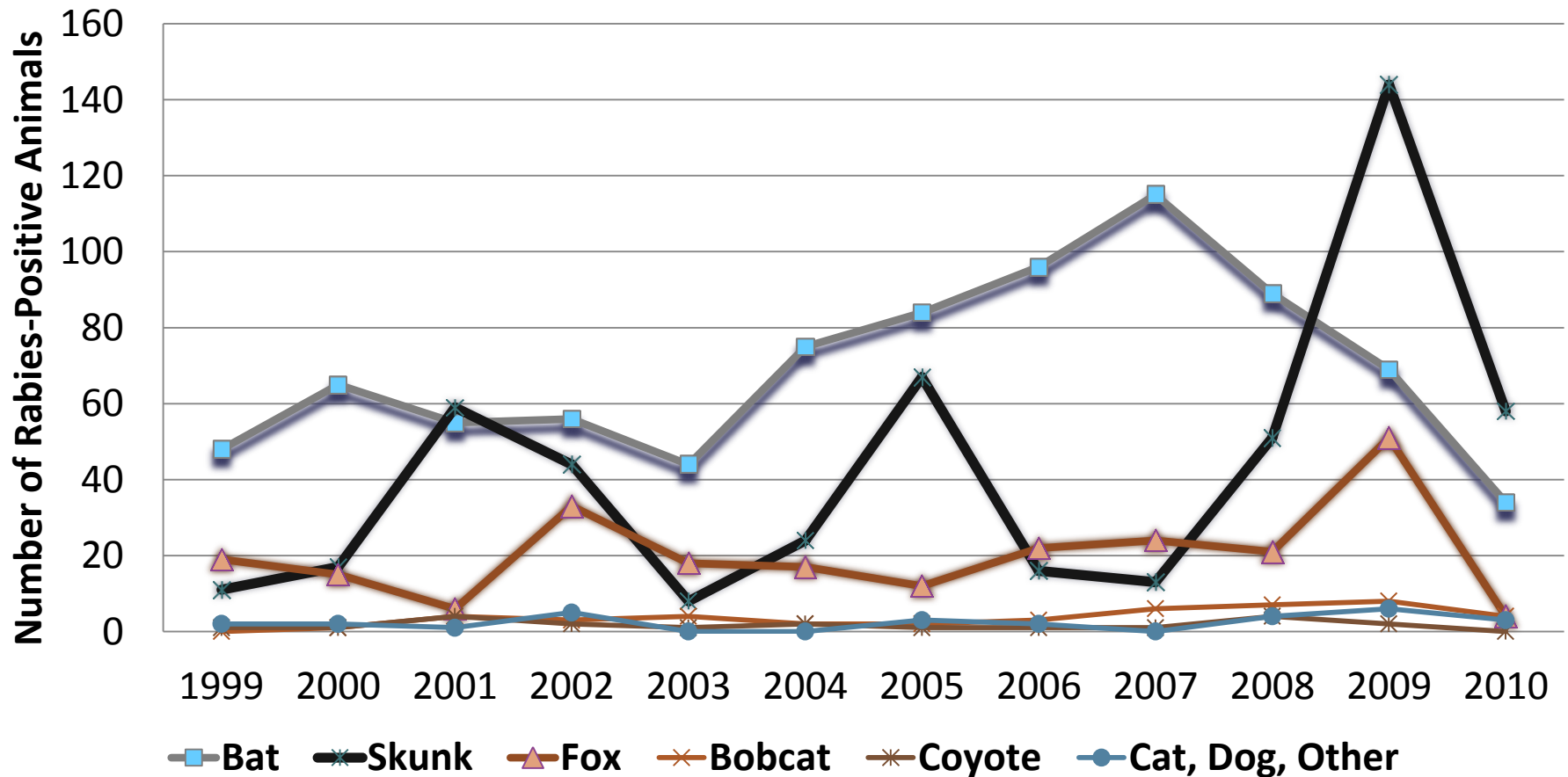
# Vectorborne/Zoonotic Diseases

- Small number of cases but many VBZ diseases are serious and feared
- Several potential bioterrorism agents – tularemia, anthrax, brucellosis
- Rabies is still present in wild animals – hundreds of rabies bite assessments are conducted by MCDPH each year; 60 received prophylaxis

# Rabies

- No human rabies cases in Maricopa County in 2010
- However, rabies is still present in wild animals:
  - 8 bats and 1 bobcat in MC in 2010
- No rabies in a dog in Maricopa County since 1977 (attributed to live vaccines, no longer used)
- No rabies in a cat since 1982 (also vaccine-associated)

# Animals Tested Positive for Rabies Arizona 1999-2010



# ROCKY MOUNTAIN SPOTTED FEVER

## *An Emerging Disease in Arizona*



- Once vector was *D. andersoni*, only rare cases
- By 2003, RMSF found in common brown dog ticks in eastern AZ
- 30 to 100% of dogs seropositive for RMSF by CDC
- Should be in MC any time now...

# Emerging Infectious Diseases

# Emerging Infectious Disease

- Disease surprises yearly
- West Nile Virus in 1999 (US), 2004 (MC); SARS in 2003; Novel Swine-like influenza in 2009
- Understates the need for public health/healthcare preparedness
- Several examples of known threats



# Dengue Fever Almost to AZ



## Global Dengue

WHO: Dengue is endemic in at least 100 countries in Asia, the Pacific, the Americas, Africa, and the Caribbean. The World Health Organization (WHO) estimates that 50 to 100 million infections occur yearly, including 500,000 DHF cases and 22,000 deaths, mostly among children.

- Areas infested with *Aedes aegypti*
- Areas with *Aedes aegypti* and dengue epidemic activity



# Malaria Potential



# Novel H1N1 (Swine-like) Influenza and Other Public Health Emergencies

- Public health community expected a pandemic of influenza at some point
- SARS gave some practice, as did public health preparedness exercises
- Still, the H1N1 swine flu overwhelmed healthcare system (public health, hospitals, Office of Preparedness & Response, other partners)

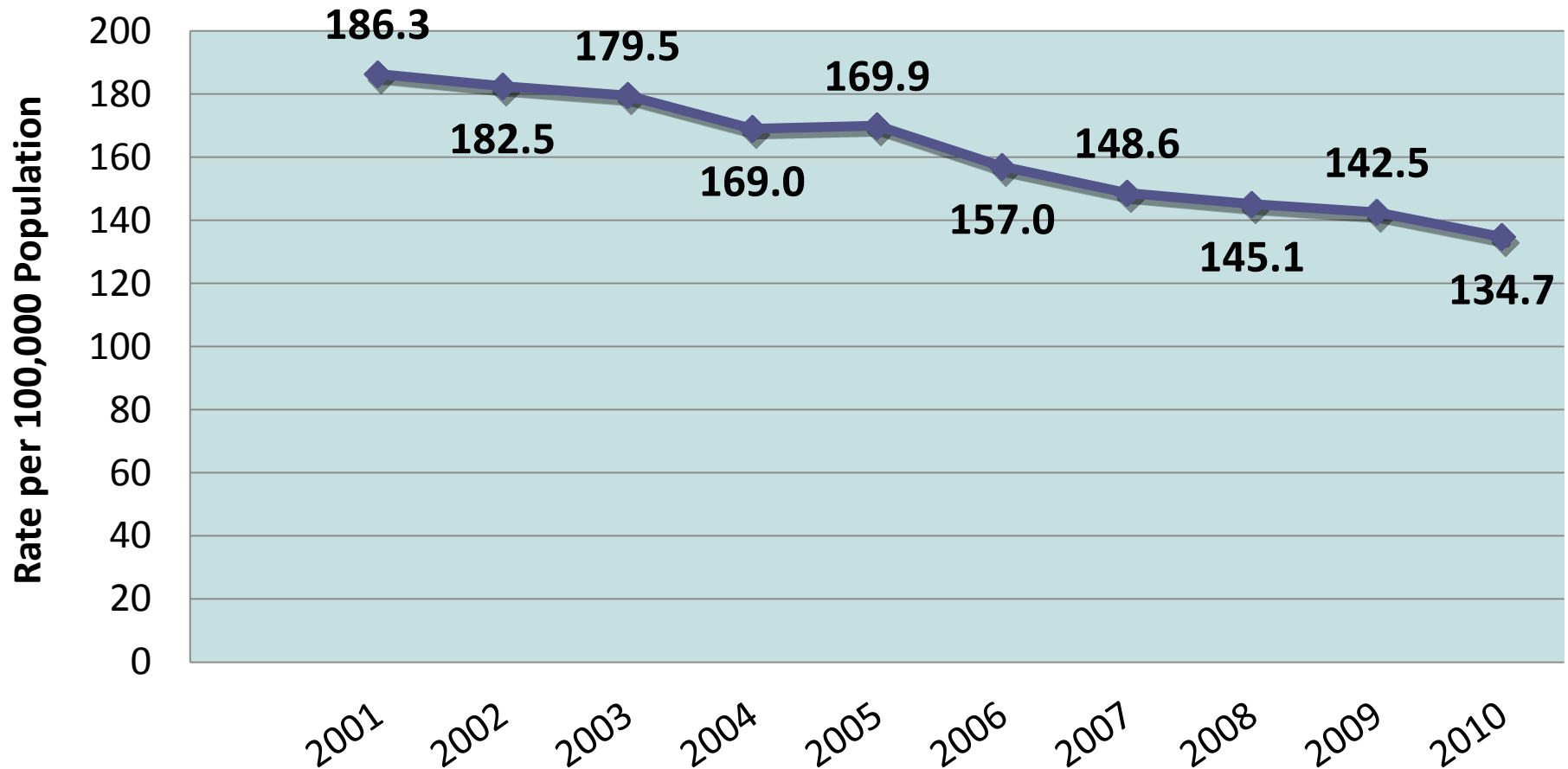
# Cancer

# Cancer

- Cancer death rates have decreased over the last decade
- In 2010, #1 leading cause of death in Maricopa County
- Potential years life lost in MC 2010 = 51,334 years
- Inpatient stays in 2010 = 16,318
- Deaths = 5,508

# Cancer Death Rate

## Maricopa County Residents 2001-2010

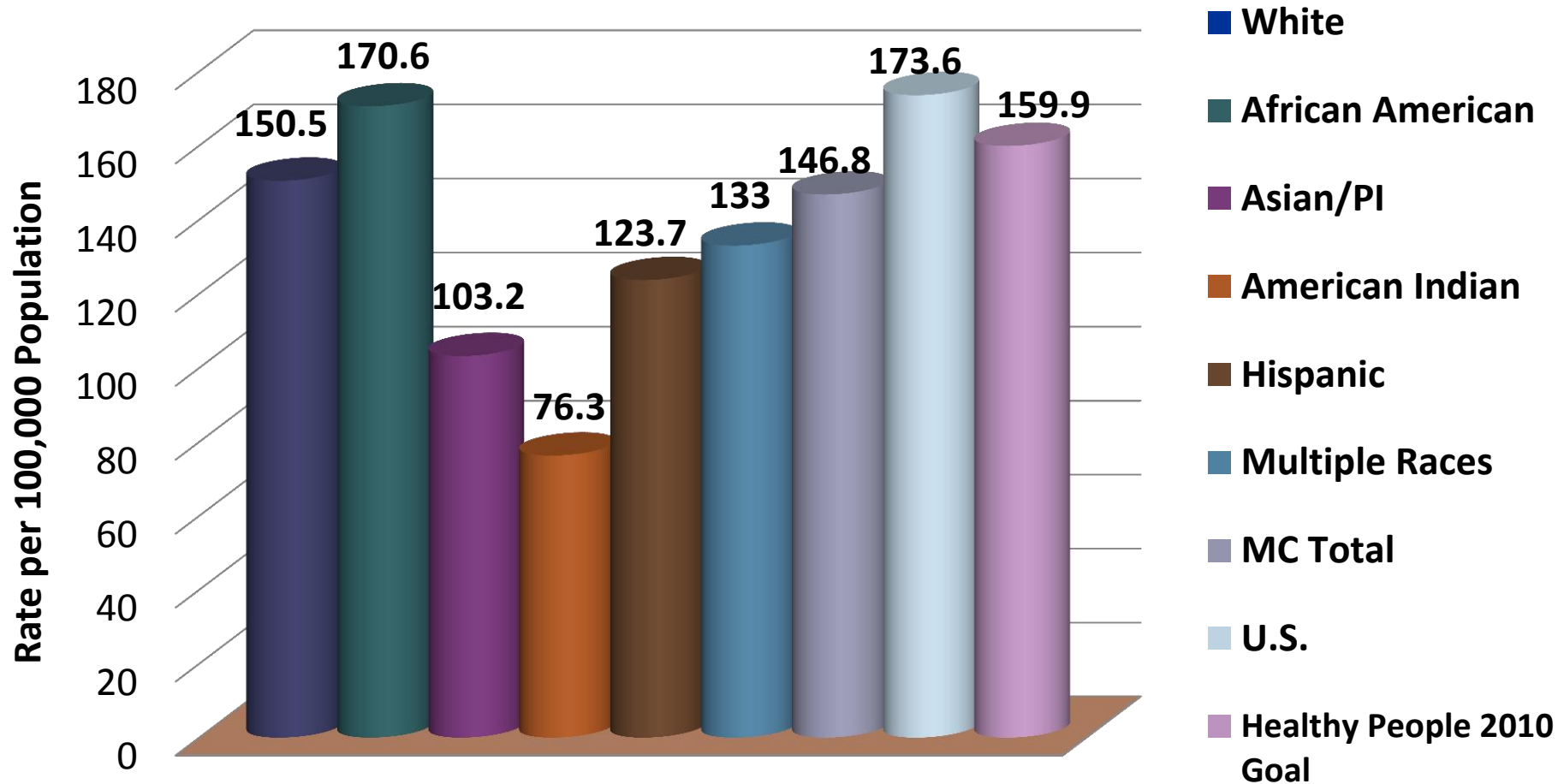


Statistically significant downward trend.

Source: Death Certificates

# Cancer Death Rates and Comparisons

## Maricopa County, US, and HP 2010



Statistical significance – American Indians and Asians lower than Whites.

Source: Death Certificates

# Data Sources

## **ADHS FYE Communicable Disease Data:**

All data on communicable diseases are new cases for each specific year from the ADHS final annual data files. There are several exceptions: data on genital herpes, gonorrhea, Chlamydia, syphilis, and Hansen's disease are from MCDPH data files. The data presented in this report include communicable diseases to residents of Maricopa County. This includes Maricopa County residents who acquired a disease in Maricopa County and residents who acquired a disease elsewhere. Non-Maricopa County residents are not included, even if they acquired a disease in Maricopa County. Other reports or press releases may show different morbidity rates because they include non-residents who acquired disease in Maricopa County or they exclude residents who were exposed outside of the county.

## **Arizona Rabies Control & Bite Management Manual**

<http://azdhs.gov/phs/oids/vector/rabies/pdf/AZRabiesManual.pdf>

## **Arizona Health Survey 2010, St. Luke's Health Initiatives**

<http://www.arizonahealthsurvey.org/>

## **Arizona Immunization Program Office, Assessment Unit, ADHS**

[http://www.azdhs.gov/phs/immun/act\\_aipo.htm](http://www.azdhs.gov/phs/immun/act_aipo.htm)

# Data Sources Cont'd

## **Behavioral (BRFSS) Statistics**

All data on BRFSS statistics are from data from the Arizona Department of Health Services (ADHS) final annual files. The data presented in this report includes information collected from Maricopa County residents during telephone survey interviews conducted by the ADHS. Arizona residents that were interviewed but lived in another Arizona county were not included.

The BRFSS is a state-based, cross-sectional, random telephone survey of household residents aged 18 and older conducted throughout the year. It has been conducted in Arizona since 1982. The BRFSS gathers information on risk factors related to both chronic and infectious diseases.

## **Birth Certificate Data:**

All data on natality are from the Arizona Department of Health Services (ADHS) final annual files. The data presented in this report are from birth certificates where the mother's county of residence is Maricopa County. This includes births that did not occur in Maricopa County. National Center for Health Statistics rules state that if a birth does not occur in the state of residency and the county and city are unknown, the city of residency is assigned to the largest city in the state of residency. For Arizona, the largest city is Phoenix. Therefore, some births that occurred outside of Arizona are included in Maricopa County's final year end statistics even though the county and city of residence are unknown. For further explanation, please see <http://www.cdc.gov/nchs/data/dvs/3amanual.pdf>

## **Census Data:**

The Maricopa County population for 2001 through 2009 is from the U.S. Census Bureau, 2000-2010 Intercensal Population Estimates by Age, Sex, Race and Hispanic Origin released September 2011. This is at Population Estimates: County Intercensal Estimates (2000-2010): Annual Population Estimates - U.S. Census Bureau. The population for 2010 is from the U.S. Census Bureau, 2010 Census by Age, Sex, Race and Hispanic Origin released July 21, 2011. This is at [http://www2.census.gov/census\\_2010/03-Demographic\\_Profile/Arizona/az2010.dp.zip](http://www2.census.gov/census_2010/03-Demographic_Profile/Arizona/az2010.dp.zip)



# Data Sources Cont'd

## Death Certificate Data:

All data on mortality statistics are from death certificates included in the Arizona Department of Health Services (ADHS) final annual files. The data presented in this report include Maricopa County residents only. This includes Maricopa County residents who died in Maricopa County and residents who died elsewhere. Non-Maricopa County residents who died in Maricopa County are not included.

## Deaths: Preliminary Data for 2010

This report presents preliminary U.S. data on deaths, death rates, life expectancy, leading causes of death, and infant mortality for 2010 by selected characteristics such as age, sex, race, and Hispanic origin.

[http://www.cdc.gov/nchs/data/nvsr/nvsr60/nvsr60\\_04.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr60/nvsr60_04.pdf)

## Hospital Discharge Statistics

Hospital Discharge Data (HDD) is submitted by Arizona Hospitals to Arizona Department of Health Services (ADHS). Data is submitted by half years, with the first half (January 1 – June 30) due August 15 of the same year and the second half (July 1 – December 31) due by February 15th of the following year. ADHS then prepares the data for public release and the data are released between 3 and 6 months after collection. This dataset only contains hospitalizations *Maricopa County Health Status Report 2001 – 2010 Page 63* from facilities within the state of Arizona. Hospitalizations of Maricopa Residents that occur outside of Arizona are not captured.

## Healthy People 2010

Healthy People 2010 provides science-based, 10-year national objectives for improving the health of all Americans. For 3 decades, Healthy People has established benchmarks and monitored progress over time.

Data is available at: <http://www.healthypeople.gov/2010/default.htm>

# Data Sources Cont'd

## **Pediatric Nutrition Surveillance System (*PedNSS*)**

The Pediatric Nutrition Surveillance System (PedNSS) is a program-based surveillance system that monitors the nutritional status of low-income infants, children, and women in federally funded maternal and child health programs.

<http://www.cdc.gov/PEDNSS/>

## **Youth Risk Behavior Surveillance System (YRBSS)**

The Youth Risk Behavior Surveillance System (YRBSS) monitors six types of health-risk behaviors that contribute to the leading causes of death and disability among youth and adults. YRBSS includes a national school-based survey conducted by CDC, and state, territorial, tribal, and local surveys conducted by state, territorial, and local education and health agencies and tribal governments.

<http://www.cdc.gov/healthyyouth/yrbs/index.htm>